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ABSTRACT

This report of a study to analyze the problems of access to institutional skills training of the manual work force is divided into five chapters. Chapter 1 introduces the study and explains the work plan and methodology. Chapter 2 discusses patterns of employment and overviews the provision of manual skills training in Botswana. Chapter 3 concerns these formal sources of vocational training: the National Centre for Vocational Training, now the Polytechnic; the brigades (which provide training in a particular occupation to primary school-leavers) and the prisons. Specific topics dealing with brigades include entry requirements, fees, provisions of places, personal attributes affecting access, current recruitment and selection procedures, part-time skills courses, provision of new courses and expansion plans, and access to skills training. Chapter 4 examines training opportunities provided by employers and their general attitudes to training. The analysis is divided by deliverer of training: public (government) sector, mining companies, and other private sector companies and businesses. Focuses include recruitment, development of training institutions, and trade testing system. Chapter 5 lists ten recommendations arising from a survey of training institutions and nine from a survey of employers. Appendixes include a description of trade testing and annotated bibliography. (YLB)

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UNIVERSITY OF BOTSWANA AND SWAZILAND

UNIVERSITY COLLEGE OF BOTSWANA

SURVEYS AND STUDIES IN ADULT EDUCATION

GENERAL EDUCATIONAL REQUIREMENTS
FOR ACCESS TO MANUAL SKILLS
TRAINING IN BOTSWANA

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
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IN COLLABORATION WITH
INSTITUTE OF ADULT EDUCATION

GABORONE, JUNE 1979

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Many thanks are due to UNESCO, Paris, for their tolerance over the unavoidable delay in completing this report.

To Mrs. K. Morris and Mrs. L. Dharmapalan go our warmest thanks for typing of drafts upon drafts of the various components and their ultimate success at organizing them into the final report.

We, of course, carry full responsibility for facts or opinions which are expressed in this report. For the errors or shortcomings that remain, we have no one to blame but ourselves.

* * * * *

CHAPTER 1

INTRODUCTION

1.1 This study has been undertaken by the Faculty of Economic and Social Studies in collaboration with the Institute of Adult Education on behalf of UNESCO as part of the Studies on the Educational Requirements for Access to Vocational Education in several developing countries.

1.2 On the recommendation of its Regional Office for Education in Africa, UNESCO selected Botswana as one of the developing countries meriting such a study, and in December 1978, the Faculty of Economic and Social Studies, University College of Botswana, agreed to undertake, under contract with UNESCO, a study on the General Educational Requirements for Access to Manual Skills Training in Botswana.

Objectives of the Study and Terms of Reference

1.3 As stated in the Guidelines for the present study prepared by its Adult Education Section, UNESCO Sub-Project 1.1531.2 is designed to:

"... identify the general educational needs of the various categories of those in employment who have not had sufficient initial education to allow access to vocational training leading to skilled occupation... [and to prepare] projects designed to meet the needs of the employment market and ensure greater social mobility."

1.4 For the purpose of the present survey, which forms a part of this Sub-Project, UNESCO has identified five objectives for detailed study. These are:

- a. to analyse, in a selected number of developing countries existing facilities for vocational education (both formal and non-formal) in relation to accessibility by persons already in employment;
- b. to assess the availability of opportunities for continuing technical education, especially for those persons who had acquired their technical know-how informally;
- c. to describe access requirements for vocational education;
- d. to set out existing admission regulations whether based on legislation or otherwise, and other conditions both favourable and unfavourable to the broadening of access to vocational education;
- e. to examine the relationships between formal and non-formal modes of knowledge and skill acquisition for the benefit of working persons.

Terms of Reference for Botswana

1.5 As its first task, the Botswana Project Committee carefully scrutinized the "Guide-lines" formulated by UNESCO and found it necessary to spell out in detail the objectives of its study on Botswana as well as to define and/or to interpret the various concepts and terms in the local context. These are given in the document enclosed hereto as appendix I.

Work Plan and Methodology

1.6 At the very beginning, the Project Committee drew up a four-stage work plan as follows:

- a. Preparation of interview schedules;
- b. Fieldwork;
- c. Analysis of the information collected;
and,
- d. Preparation of final report.

1.7 The Chairman of the Project Committee (N. Ahmad) carried the responsibility for the general direction and supervision of the study, and the Project Coordinator (N.P. Moyo) coordinated its day-to-day implementation. The study was divided into three sections and members of the Project Committee were assigned to each section as follows:

- a. Vocational Training Institutions
(R.J. MacKenzie and F. Youngman)
- b. Employers and Employees (N.P. Moyo
and D.S. Jones)
- c. Self-employed (E.O. Ochieng)

1.8 Each section team assumed the primary responsibility for collecting the data and writing up the report. Successive drafts were circulated and discussed both informally and at the Project Committee meetings. The final report has been edited by N. Ahmad and N.P. Moyo.

The Training Institutions and Trade Testing

1.9 At an early stage, several discussions were held with the Training Adviser in the Directorate of Personnel,

and with the Trade Union representatives. Relevant syllabi and literature were also consulted.

The NCVI (now the Botswana Polytechnic)

1.10 For the NCVI, open interviews were held individually and collectively with the Principal, the Chief Technical Education Officer at the Ministry of Education, and the Industrial Liaison Officer. In addition, the Principal completed a detailed questionnaire. All the above named officers were given the relevant sections of the draft report for discussion and written comment.

The Brigades

1.11 To obtain relevant information on the Brigades, 25 persons were interviewed - 16 by formal interview schedule, and 9 by open discussions. The survey covered 15 of the 16 Brigade Centres currently in existence in various parts of Botswana, and members of the survey team personally visited 11 of these. It should be noted that respondents were mainly coordinators, though a few managers and teachers, and one trainee were also interviewed in depth. The considerable body of literature on the Brigades was also consulted, and discussions were held with the relevant sub-committee of the National Brigades Coordinating Committee (NBCC) which deals with throughput training.

The Prisons

1.12 With regard to the Prisons, data collection was confined to Gaborone. Open interviews were held with the Director of Prisons, the Prisons Industrial Manager, and a Superintendent with special responsibility for production. All commented upon the relevant section of the draft report. The Prisons Department Annual Report for 1977 provided additional data.

Trade Testing

1.13 To collect information on Trade Tests, several meetings were held with the Chief Trade Testing Officer and the Senior Labour Officer, who proved most cooperative, and instigated a special search of their records to provide material for appendix IV.

The Survey of Employers

1.14 The survey of employers covered central government departments, the parastatal sector, and large and small employers in the private sector drawn from different industries, as well as the Botswana Employers Federation. The sample, therefore, represented a cross section of employers in Botswana. In all twelve establishments were visited. The investigation consisted of an in-depth interview based on an open-ended questionnaire in which the interviewee was allowed to elaborate his answers and disclose information without restriction. Information was sought not only on training opportunities provided by the employers but also about their general attitudes to training. Those interviewed in each establishment included the general manager/director and training officer/personnel manager. The list of employer organisations visited is given in appendix II.

The Survey of the Self-Employed

1.15 The modern industrial sector of Botswana is small and the number of the self-employed in the industrial sector is accordingly small and scattered. Accessibility sampling was used to locate respondents from rural and urban areas in as many trades as practicable. The following areas were selected mainly because they formed a compact region: Gaborone, Ramotswa, Manyana,

Kanye, and Mochudi where information was gathered from 13 trades. This sample survey held down transport costs which would otherwise have been excessive.

1.16 It was not possible to predetermine those to interview and so it was necessary to make at least two trips to each of the areas selected, first to obtain permission from the chief or district commissioner and locate possible respondents, and secondly to carry out the interview itself.

1.17 Questionnaires were used and they were personally administered to give room for variations and flexibility and to eliminate the possibility of misinterpretations. The response was, in general, good and respondents were enthusiastic; many of them thought that the exercise was meant to select suitable persons for further training. It was however made clear to them that that was not the case. For details, see, appendix V.

The Seminar

1.18 As part of the study, the Project Committee organized a day long seminar at which the vocational training institutions, employers, trade unions and government advisers on technical education were present. The seminar was held at the University College of Botswana on 24th April, 1979. The purpose of the Seminar was two-fold:

- a. to present our preliminary findings and to give participants an opportunity for making an input into the report; and,
- b. to create a precedent for future dialogue among the participants.

1.19 The Seminar was very helpful and our final report has benefited a great deal from the views and opinions expressed by the various participants. A list of the participants is given in appendix III.

The Bibliography

1.20 A bibliography of relevant literature was compiled and appears as appendix VI.

* * * * *

CHAPTER 2

EMPLOYMENT AND MANUAL SKILLS TRAINING IN BOTSWANA

GENERAL BACKGROUND

Patterns of Employment in Botswana

2.1 The Botswana economy has grown rapidly since independence. The GDP rose from P37 million in 1966 to P244 million in 1975/76 (constant 1975/76 prices). The Fourth National Development Plan 1976-81 forecast an annual average rate of growth of GDP of 9.6 per cent over the plan period. In 1976, the main contributors to the GDP were agriculture, fishing, forestry and hunting (25%), trade, hotels and restaurants (21%), mining, quarrying and prospecting (12%), general government (11%). If the expected growth rate is maintained the mining sector will overtake agriculture by 1980/81 in terms of contribution to the GDP. Agriculture and mining are also the key foreign exchange earners for Botswana. The contribution of the two sectors to employment is, however, relatively small.

2.2 Botswana, like most developing nations, suffers from an acute problem of unemployment and underemployment. In 1978, it was estimated that Botswana provided work for at most 208,000 persons. But roughly 376,000 persons were available for work. This meant that a total of 168,000 persons (44% of the labour force) could not find gainful employment.¹

1. Michael Lipton, Employment and Labour Use in Botswana, Final Report: Volume 1, December 1978. p. iii.

2.3 Most Batswana have to find employment in the subsistence sector. In August 1977 the formal sector provided only 62,700 jobs (17% of the labour force) of which 24,600 (39%) were in education and central and local government. The main trends in modern sector employment between 1972 and 1977 are shown in table 1 below. The table shows that outside education and local and central government, the main employers of labour in 1977 were wholesale and retail trade, restaurants and hotels (10,000), construction (6,900), mining and quarrying (5,500).

2.4 The Fourth National Development Plan forecast an annual growth rate of formal sector employment of 5,6% (i.e. 3,000 new jobs each year) over the plan period, 1976-81. But population growth added 12,000 to 13,000 workers every year.

2.5 A large number of Batswana still find employment in South Africa. An estimated 25,200 workers found employment in South African mines in 1977. An unknown number found work in non-mine occupations. There are fears that mine employment in South Africa could fall rapidly thus aggravating Botswana's unemployment problems.

2.6 It is these gloomy forecasts on employment prospects which have compelled the government to adopt an employment oriented strategy in the next development plan. The government has realised that it is almost impossible to provide every individual Motswana with a modern sector job. The government's employment strategy is therefore two-pronged:

T A B L E 1
ESTIMATED TOTAL FORMAL SECTOR EMPLOYMENT
BY ECONOMIC ACTIVITY, 1972-77

ECONOMIC ACTIVITY (1)	1972	1973	1974	1975	1976	1977
Agriculture	4 825	4 625	4 450	4 250	4 025	4 250
Mining and quarrying	1 675	3 525	4 100	4 525	5 450	5 500
Manufacturing	2 650	2 850	3 300	3 850	4 275	4 150
Electricity and water	(2)	325	525	650	750	950
Construction	6 475	7 225	8 075	9 000	6 125	6 900
Wholesale and retail trade, restaurants and hotels (commerce)	7 850	8 600	9 400	10 250	10 500	10 000
Transport and Communications	1 125	1 350	1 650	1 975	2 025	1 850
Finance and business services	) 3 150	) 3 275	) 3 425	2 000	2 675	2 425
Community and social services	)	)	)	1 575	1 875	2 100
Education (Private and Government)	3 350	3 350	3 800	4 375	5 000	5 825
S U B - T O T A L	31 100	35 125	38 725	42 450	42 700	43 950
Central Government	4 775	5 275	5 825	6 225	6 725	8 100
Central Government (Industrial class)	4 400	4 800	5 350	5 975	6 875	7 350
Local Government	1 025	1 750	1 700	2 675	3 075	3 300
T O T A L	41 300	46 950	51 600	57 325	59 375	62 700

- Notes:
- (1) Establishments are classified by Economic Activity according to the Botswana adaptation of the 'International Standard Industrial Classification'.
 - (2) Not separately available - included under "Manufacturing".
 - (3) All figures are rounded to the nearest '25'; some figures do not add to totals because of rounding.
 - (4) Includes formal sector self-employed (working proprietors and family workers).

Source: Employment Survey (August 1977).

- (i) to maximise the rate of job creation associated with the growth of the modern sector, and to spread such employment to the villages as well as the towns;
- (ii) to provide increased opportunities for productive self-employment and informal sector employment, particularly in the rural areas and on the urban fringes.²

2.7 In 1977 the government appointed an employment development adviser to advise on policies to increase levels of productive employment, self-employment and labour utilisation throughout the economy. The report of the adviser was published in December 1978 and a government White Paper is awaited.

2.8 The majority of the labour force in Botswana is unskilled. The economy's demand for skilled manpower has continued to outstrip supply. Botswana still has to depend very heavily on expatriate labour, especially for high level posts in the managerial and professional, and technical fields. In August 1977, it was estimated that there were 4,230 expatriate workers (7% of total employment) in Botswana of whom 1,080 were employed in general government, 690 in education and roughly 2,500 in the private and parastatal sectors.³ The citizen pool of qualified and experienced technicians and craftsmen is very small indeed. This lack of a reservoir of technically qualified people is seriously hampering the fast development of the economy. The next development plan will therefore place great emphasis on technical education. Hence this UNESCO-sponsored survey comes at a most appropriate time for Botswana.

2. National Development Plan, 1976-81, p. 17.

3. Employment Survey (August 1977), p. 4

TABLE 2⁽¹⁾

PRIVATE AND PARASTATAL SECTOR RESPONSE RATES, ESTIMATED NUMBER OF ACTIVE ENTERPRISES
AND EMPLOYMENT BY ECONOMIC ACTIVITY

ECONOMIC ACTIVITY	Number of known(2) Enterprises	Enterprises that Responded			Estimated Number of Active Enterprises			Estimated Total Employment (3)		
		Total Number	Percentage of known Enterprises	Number of Active Respondents	Enterprises Employing		Total	Enterprises Employing		Total
					Less than 50 Persons	50 + Persons		Less than 50 Persons	50 + Persons	
Agriculture	346	230	66%	166	231	17	248	2710	1540	4250
Mining and Quarrying	33	29	88%	14	9	7	16	150	5350	5500
Manufacturing	187	121	65%	75	92	18	110	1470	2690	4160
Electricity and Water	2	2	100%	2	-	2	2	-	960	960
Construction	206	140	68%	61	53	28	81	1120	5770	6890
Commerce (4)	1792	1001	56%	629	1099	27	1126	7590	2410	10000
Transport and Communication	235	101	43%	46	98	6	104	570	1280	1850
Finance and Business Services	523	264	50%	81	139	13	152	910	1520	2430
Community and Social Services	439	247	56%	93	150	5	155	1490	610	2100
T O T A L	3763	2145	57%	1167	1871	123	1994	15010	22130	38140

Notes: (1) The information in this table relates to August 1977.

(2) Excluding "struck off" companies.

(3) All figures rounded to the nearest '10'.

(4) 'Commerce' includes wholesale and retail trade, restaurants and hotels, etc.

Source: Employment Survey (August 1977).

2.9 A major obstacle to technical training in Botswana is the smallness of business enterprises in the country. Table 2 shows the estimated number of active enterprises by employment size and economic activity in the private and parastatal sectors. The table shows that 94 per cent of active enterprises employed less than 50 persons. The Employment Survey showed further that 50 per cent of the responding enterprises employed between one and five persons.⁴ The provision of training facilities is likely to be closely correlated to the size of the establishment. Small enterprises are unlikely to have either the resources or the incentive to undertake training.

The provision of manual skills training in Botswana - An overview.

2.10 The provision of manual skills training in Botswana can be divided into four categories:

- (a) Training at the National Centre for Vocational Training (NCVT);
- (b) Training through the Brigades;
- (c) Training provided by employers within employment establishments often at a Trade School or Training Centre;
- (d) Training provided by the Prisons.

2.11 The National Centre for Vocational Training was opened in 1974 in Gaborone to provide trade training up to Test Certificate and subsequently to City and Guilds level. In this respect it became the major institution of craft training in Botswana, and so performed an important role in promoting the manpower goals of the country. In 1977, there were 121 trainees, undertaking courses in the major trades. Some of the trainees were sponsored by private and public employers.

4. Employment Survey (August 1977).

The NCVI is a public educational institution under the jurisdiction of the Ministeries of Education and Home Affairs. Recently it has been redesignated as a Polytechnic.

2.12 A second important source of training are the Brigades. The Brigades are organisations of young people mainly in the villages and rural areas which specifically provide training in productive activities such as carpentry, building and agriculture. Membership of the Brigades is composed of young people who have not received secondary education, but who by their work and training in the Brigades are given the chance of gaining worthwhile employment outside. The training is generally rudimentary. In 1977, there were about 450 trainees benefiting from the opportunities provided by the Brigades.

2.13 The third source of training are the employment establishments. Important manual skills training programmes are undertaken by the following establishments: De Beers (Botswana) Mining Company at Orapa; B.C.L. Limited (formerly Bamangwato Concessions Limited), a copper mine at Selebi-Phikwe; Minestone Botswana (Pty) Limited (a construction company); Botswana Meat Commission; Botswana Power Corporation; Department of Water Affairs; Department of Posts and Telecommunications; Department of Roads; and, Central Transport Organisation (C.T.O.). A number of these employers have their own trade school or training centre, e.g. B.C.L., De Beers, Department of Posts and Telecommunications, Department of Roads, and C.T.O.

2.14 It should be noted that a significant portion of manual skills training is provided by employers on an informal day-to-day basis, outside any formal scheme or institutional framework. This type of training is particularly important within small firms and enterprises.

2.15 Lastly, mention should also be made of the provision of manual skills training in the Prisons. The Prisons have workshops wherein prisoners may receive instruction and training in a number of manual skills. This is part of the effort to improve the prisoner's chance of rehabilitation once he has left the prison. The sale of the products made by the prisoners helps to cover the costs of running the prison.

* * * * *

CHAPTER 3

VOCATIONAL TRAINING INSTITUTIONS

The General Situation with Regard to Vocational Training

3.1 Vocational training in Botswana is the concern of a large number of agencies - public, private and para-statal - which employ craftsmen. There is, however, a dispute about the ultimate jurisdiction of vocational training. The Technical Education wing of the Ministry of Education, and the Department of Labour are the major contenders. In this climate, it has proved extremely difficult to promote cooperative planning and regular discussion among all the interested parties. However, all concerned have expressed the hope that a new and necessary period of collaboration can now begin. Trade testing is closely linked to training, and the question of access must be tied to the twin goals of meeting manpower requirements (which must be known) and social justice (which must be articulated). It is difficult to ascertain the parameters of access especially in a changing economy. An important factor beyond the scope of this report is the extent to which trade skills are acquired by Botswana in South Africa.

The National Centre for Vocational Training

3.2 The National Centre for Vocational Training (NCVT)¹ in Gaborone has been the only training centre of its kind in the country. A vocational training programme under I.L.O. direction was started at the Botswana Training Centre (BTC) in 1970 which was subsequently transferred to the permanent building of the NCVT. In 1974, the NCVT offered one year full-time basic courses which trained people for National Trade Test C in eight trades - carpentry, trowel trades, plumbing,

1. Redesignated 'The Botswana Polytechnic' in April 1979.

electrical installation, air conditioning/ refrigeration, automechanics, machining and welding/sheet metal. It had 121 students, with an average of 15 in each trade. All were male. The entry requirements at that time were Form 3 with proficiency in English and a 50% pass in a special aptitude test. The students entered directly from school and no fees were charged. Their ages ranged from 16 to 26. The new Centre had residential facilities for 240 men in 1974, but by 1978, this had increased to 320.

3.3 In 1975, the I.L.O. contract expired and the Government decided not to grant a renewal. After a period of transition, a new course structure was introduced in May 1976. This included a one-year pre-employment Basic Engineering Skills Course, the City and Guilds 820, which is known as Part One Training. The training included general studies, trade studies and trade practice exercises. After 6 months work experience, graduates could sit for Trade Test C. It also included a wide range of short up-grading courses, which are known as Part Two Training. These are often directed at helping workers up-grade from Trade Test C to B and from B to A and last from two to six weeks. They provide training in specific skill areas e.g. glass cutting with glazing. This two part course structure provided craft training. A decision has recently been taken to introduce technical level training and to up-grade the Centre to a Polytechnic.

3.4 Part One Training is the basic level City and Guilds 820 course with specialisations in automechanics, electrical and mechanical. In 1977, there were approximately 100 applications from men

and 6 from women. Sixty men were actually enrolled. The number of places on Part One training was thought to be insufficient, considering the need for electricians and automechanics. According to the Chief Technical Education Officer, this was due to lack of sufficient applicants of the correct calibre and qualifications (Form 3 completers, with good marks in Maths, Science and English), especially for construction activities. Staff shortages have also been a serious constraint.

3.5 To enter Part One training, students need three to five years of secondary education and they have to pass the Centre's aptitude test and interview. Fluency in English is necessary but people with requisite secondary education are at an acceptable level, so this requirement is not a constraint on entry. Usually students enter straight from school but some join after having been in employment. The main trend in entry requirements is a conscious attempt to raise standards and stiffen selection procedures.

3.6 Students do not require sponsorship; however, in 1977 there were only 24 unsponsored students out of the total of 60. A number of private and public sector employers sponsor students. Since no fees are charged for training or board and lodging, sponsorship simply requires payment of wages or training allowance during the training period.

3.7 The NCVT applies no criteria for entry based on personal attributes such as age, health or geographical origin. It does not exclude women, though there are problems with employers who do not readily accept women in 'men's jobs'.

3.8 In 1977, there were 29 up-grading courses for Part Two training with 303 male and 2 female enrolments. (The actual numbers of individuals trained is not given because some attended more than one course.)

3.9 The main entry requirement for Part Two is that the person be nominated by the employer as being able to benefit from the training. The level of formal education therefore varies and includes people with only primary school education. To a small extent, the need for fluency in English may have debarred some potential students from these courses. No fees for boarding or training are charged, and though no sponsorship is required, in 1977 only 17 students were unsponsored.

3.10 There were some part-time day courses in 1977 in subjects such as 'O' level Maths and Science and in Basic Technical Drawing but there were no part-time evening courses or part-time skills courses. It is generally felt that there should be more opportunities for part-time (day and evening) study provided by the Centre. The NCVT has been reluctant to undertake more evening classes partly for lack of staff, partly for fear of being seen to unduly favour Gaborone to the exclusion of the rest of the country and partly because it is felt that evening classes would not justify the extra effort.

3.11 The NCVT has residential places for men and access to women's accommodation at the Botswana Training Centre. Both its accommodation and its teaching facilities are currently underutilised. The most significant constraint on expansion is recruiting trained staff both from Botswana and abroad.

There is a staff establishment of 50 but there has never been more than 33 staff in post, and in March 1977 there were only 23 in post. In spite of limiting the number of courses that can be made available, staff shortage remains the major constraint on access.

3.12 Since the re-arrangement of the course structure in mid-1976, the NCVI has an Industrial Liaison Officer. The Officer's most important task as laid down in the job description is to be responsible for:

"The maintenance of close links between the Centre and Industry for the purposes of:

- a. Ascertaining the needs of employers with respect of quality and quantity of technical manpower and to advise the Principal of current needs and future trends.
- b. Promoting a clear understanding of the resultant services offered by the Centre to the Nation's Employers of technical personnel."

3.13 The Officer is therefore particularly responsible for the flexible provision of Part Two courses to meet employers' needs. New courses are offered in response to requests, researched needs or manpower planning requirements, and the Officer is now in contact with about 150 firms.

The Botswana Polytechnic

3.14 In April 1979, the NCVI was redesignated the Botswana Polytechnic to add an extra level, namely that of technician training. The change of name is also intended to create a more prestigious image, which it is hoped will facilitate staff recruitment.

It was this consideration, rather than the implied aim of achieving economies of scale, which prompted the redesignation of the NCVT.

3.15 Two alternative methods of entry are proposed for the technician course: one is to enter a craftsman course after completing Junior Certificate; the second is direct entry for Form 5 school-leavers.

3.16 The effectiveness of the new Polytechnic will depend upon the arrival of new equipment, and particularly staff. An immediate establishment of 3 new Heads of Department posts is planned for 1979/1980. Five Lecturer posts are to be created for 1980/81. Basic crafts (Trade Test C with a minimum standard 7 qualification) will become the sole responsibility of the Brigades. If the Polytechnic continues to have any involvement in preparation of Trade Tests, it will be at the level of A, and possibly B.

3.17 Lack of consultation seems to have hindered progress also in the promulgation of legislation concerning apprentices. However, Technical Education Staff support the principle of such legislation, and indeed see this as a means of easing relationships all round, and improving the situation. It could provide a stimulus for all interested parties to enter into constructive discussion over training. It is also felt that a statutory training levy would encourage employers to utilise better the services of the Polytechnic. An Apprenticeship Board might be the very body needed to solve the problem of liaison and coordination, if it represented meaningfully all relevant groups, and had a watching brief on trade testing standards and training. Details about the composition of such an Apprenticeship Board would need to be carefully worked out.

3.18 It is generally felt that the Polytechnic has a significant role to play in the national provision of skills training and that it would remain the only national centre. It would concentrate on providing access to higher levels of training, both through technician courses and craft up-grading courses (e.g. for Brigades graduates). Following the redesignation of the NCVI, it is intended that all basic craft training will eventually be done by the Brigades.

3.19 It will be some time before it can be ascertained whether the newly-created Polytechnic can meet the needs of the modern sector.

The Brigades²

3.20 In 1977, the 16 Brigade centres had a combined intake of about 470. But the origin of the Brigades was on a much less grand scale. In 1963 when Patrick van Rensburg founded Swaneng Hill School he discovered that he had to turn away many primary school leavers who applied to enter his secondary school. When he

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2. The Brigades survey was carried out from January to March 1979. Twenty-five people were interviewed - 16 by formal interview schedule and 9 by open discussion. The survey covered 15 of the 16 Brigade Centres now in existence and the survey team visited 11 of these centres. Respondents were mainly Brigades co-ordinators, though a few managers and teachers and one trainee were also interviewed. The team also conducted interviews with officers of the Ministry of Education, including the Brigade Development Centre. The data presented is based primarily on the formal questionnaires. Some of the factual information is at variance with official data of the Ministry of Education. Many Brigades do not keep systematic data and with the high turnover of staff it is particularly difficult to get historical information on the number of applicants in 1977. The Ministry has not yet established a standardized data collection machinery.

founded the first Builders Brigade in Serowe in 1965, he was responding primarily to the pressures of the young people seeking education. As the Government lacked resources to expand education he envisaged a training programme that would cover its own costs through production. Finally, he wanted to ensure that all trainees would find work when they had completed their training. The initial rationale for the Brigades was therefore to take primary school leavers who could not get into secondary school and train them through productive activities in a skill which would bring them employment and contribute to rural development.

3.21 The idea was taken up by the Department of Community Development which by 1970 had established Brigade centres (usually called Youth Training Centres) in Lobatse, Francistown, Mochudi, Kanye and Molepolole. Three secondary schools developed by Swaneng Hill School - Shashe, Tutume and Madiba - also had Brigade Centres by 1971. The concept has developed rapidly so that by 1979 there were sixteen recognised Brigade Centres, each an autonomous body with its own Board of Trustees. The Boards include Ministry of Education representatives but the Brigades are not directly controlled by the Government. Since 1969, there has been a Government-convened National Brigades Co-ordinating Committee. In 1975, the Government started an annual subsidy per trainee and since 1977 the Ministry of Education has a Brigade Development Centre with a role in staff training, curriculum development and advisory services.

3.22 Generally a Brigade gives training in a particular occupation: there are Builders Brigades, Carpenters Brigades, etc. Several Brigades are

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grouped together in a Brigade Centre. In each training Brigade, trainees spend about 80% of their time producing food and services for sale. (This production is intended to generate the revenue to cover the costs of training.) The other 20% of their time is spent on trade theory and academic education (in Maths, Science, English and Development Studies). Most of the skills training is directed to passing the National Trade Test C after a three year programme.

3.23 This test certifies the trainees as semi-skilled craftsmen. There are a few 'advanced Brigades' which enable people to train to Trade Test B level after another one and a half to two years, and then to Trade Test A - the level of a skilled craftsman.

3.24 However, a 'Brigade Centre' does not only do vocational training for trade tests. Many centres are employers with 'production Brigades', which contribute revenue to the overall operation and diversification of village economies. Some are hardly involved in training young people but seek to provide informal skill training for older people. Some centres do extension work and explore new technologies and forms of co-operative job creation. A 'Brigade Centre' is therefore not easily definable and there are widely varying aims and philosophies within the Brigade movement with differences of opinion over clienteles, the balance between training and production, the question of training for 'modern' or 'rural' skills, etc. The centres also vary enormously in size and complexity; in 1978 Serowe had 435 trainees, 125 staff, and 226 employees, which constituted about one-third of all those involved in Brigades. In contrast, Tshwaragano Craft Centre in Gabane had only ten trainees and one member of staff.

3.25 The Brigades are therefore not at all homogeneous organisations. They are evolving in relation to the perceived problems of economic development and are varied and flexible. They are not like traditional trade schools. (The Government rejected the suggestion of the 1973 SIDA Brigades Survey Mission that they should become trade schools.) Their one common denominator is that they combine skills training with production.

Entry Requirements

3.26 It is generally felt that as Brigade training is aimed at passing the trade tests, completion of Standard 7 is necessary for passing the theory of Trade Test C. For some trades, such as automechanics and electrical, completion of Junior Certificate is considered necessary. Several respondents felt that Trade Test C is too low a standard to aim at anyway and that therefore Standard 7 leavers have too little education. It is also felt that if training is for self-employment rather than the trade tests, the level of formal schooling is irrelevant.

3.27 Respondents generally agreed that proficiency in English is necessary because the trade tests are conducted in English. It is not necessary for practical skill acquisition in most trades. Although the need for proficient English debar people who could otherwise acquire a skill, the initial constraint is the restricted number of places available and therefore not all applicants who are proficient in English have been accepted.

T A B L E 1
BASELINE DATA ON BRIGADES

Centre	Year Courses Began	Courses	Entry Requirements in that Year			
			Level of School	Language	Age	Fees p.a.
Serowe	1965	Building	None	None	None	None
Lobatse	1967	Building	Std 7	English	16-25	?
		Carpentry	Std 7	English	16-25	?
Kgatleng	1968	Building	Std 7	English	16-24	?
		Leatherwork	Std 7	English	16-24	?
		Automechanics	Std 7	English	16-24	?
Kanye	1969	Building	Std 7	English	?	?
		Homecraft	None	None	Older Women	?
Shashe	1969	Textiles	Std 7	English	None	?
		Welding	Std 7	English	None	?
		Carpentry	Std 7	English	None	?
		Building	Std 7	English	None	?
Kweneng Rural Development Association	1970	Textiles/ Handicrafts	Std 7 (Some Lower)	English	15-25	?
Tutume	1970	Bricklaying	Std 7	English	None	?
Madiba	1971	Building	Std 7	English	18+	P 10
Tswelelopele	1971	Knitting	Std 7	English	16-23	?
Ngamiland	1972	Sewing	Std 7	English	16+	?
		Building	Std 7	English	16+	?
		Carpentry	Std 7	English	16+	?
Mahalapye	1974	Textiles	Std 7	English	18+	?
Palapye	1975	Building	Std 7	English	None	P240
		Carpentry	Std 7	English	None	P240
		Dressmaking	Std 7	None	None	P240
Chobe	1978	Automechanics	Std 7	English	18-23	?
Gaborone	1978 (Operations began - no Courses)	-	-	-	-	-
Matsha	1978 (Co-ordinator appointed)	-	-	-	-	-

ENTRY REQUIREMENTS IN 1977

Centre	Courses	Minimum Level of Schooling	Proficiency in English	Straight from School	Fees p.a.
Kgatleng	Building Carpentry Welding	Std 7	Yes	Yes	P 10
Kweneng Rural Development Association	Building Textiles	Std 7	Yes	Yes	P 25 P 13
	Mechanical	JC	Yes	Yes	?
Lobatse	Building Carpentry	Std 7	Yes	Yes	P 60 residential P 30 day
Madiba	Building Carpentry	Std 7	Yes	Yes	None
	Mechanical Electrical Welding	Form 3	Yes	Yes	None
Mahalapye	Textiles	Std 7	Yes	Yes	None
Ngamiland	Sewing Building Carpentry	Std 7	Yes	Yes	P 15
Palapye	Building Carpentry	Std 7	Yes	Yes	P 20
	Dressmaking	Std 7	No	Yes	P 20
Serowe	Textiles, Printing, Rural Building, Carpentry, Panel Beating, Metal Furniture, Machines, Auto- mechanics, Tanners	Std 7	Yes	Yes	P 10
	Electrical	JC Preferred	Yes	Yes	?
	Dam Building	None	No	No	No
	Advanced Building	Trade Test C	Yes	No	?
Shashe	?	Std 7	Yes	Yes	P 33
Tswelelopele	Knitting Dressmaking Building	Std 7	Yes	Yes	P 10
Tutume	Bricklaying Carpentry Dressmaking	Std 7	Yes	Yes	P 25
	Machine Fitting	JC	Yes	Yes	P 25

3.28 The Secretary of Kweneng Rural Development Association (KRDA) felt that English was necessary because of the realities of production and commercial opportunities in Botswana. But the Secretary of Serowe Brigades argued that training ideally should be in Setswana, although this would require a national decision and work when only few of the instructors were foreigners.

Fees and Sponsorship

3.29 Most Brigades charged fees in 1977. Two reasons were stated: firstly, to help cover costs, and secondly, to make trainees value their training. On the whole, it is thought that fees are not an obstacle for trainees, though Lobatse cited examples of dropping out for financial reasons by poor trainees from rural areas and Madiba abolished fees because they were regarded as a barrier.

3.30 It has been emphasized that the Ministry of Education had started a subsidy scheme in 1975-6 of P110 p.a. per trainee, and that this scheme is a form of sponsorship. The subsidy is now P230 p.a..

3.31 Only Kanye and Serowe have ever had a trainee sponsored by an organisation. As fees are negligible in the Brigades overall budget, it has been suggested that they should be abolished rather than being concerned with schemes for sponsorship.

Trends in Entry Requirements

3.32 The first Brigade was the Builders Brigade in Serowe in 1965. It was advertised at local kgotla meetings and simply took 40 people who were interested (some had families, some were illiterate). In 1969, however, Serowe Brigades advertised on the radio and had 310 applicants from all over the country who were tested and interviewed in a highly organized and standardized manner.

3.33 Most Brigades confirmed this trend towards more formalized entry requirements. (As the Secretary of Serowe Brigades said 'the pressure for certification at the end has meant setting higher levels at the beginning'.) In practice, although a Standard 7 C or D is the minimum requirement, more secondary school leavers (with Junior Certificate) and drop-outs are applying and being accepted. (There are now even a few trainees who have passed COSC e.g. mechanics at KRDA.)

3.34 As the level of training gets higher and trade testing becomes more formalized, so Brigades have tended to take applicants with higher qualifications (e.g. Chobe said they would never take a Standard 6 again). As Brigades increasingly set their own entrance tests and interviews, school qualifications are no more considered sufficient entry requirements.

3.35 A concurrent trend with the rising levels of educational qualification is that ages are dropping. The introduction of automatic promotion and a lower maximum age for entry has meant that primary school leavers are getting younger and many are now less than 16. On the whole, this means that Brigade entrants are getting younger too. It should be noted however that Ngamiland thought its entrants were older than in the past and Palapye expressed a bias towards older people. Finally, Mahalapye in 1978 made a fundamental shift in approach away from throughput training for young people to helping older people acquire immediately useable skills, for which there were no entry requirements. Similarly, Gaborone offers no formal training courses.

Provision of Part-time Skills Courses

3.36 There were no part-time courses offered at any Brigade Centre in 1977 except at Serowe, which was experimenting with sandwich and short courses.

3.37 Most Brigades are currently concentrating on 'throughput training' i.e. taking in school leavers, putting them through a three year course and sending them out to the job market with a trade certificate. However, this is a move away from the original concept of a Brigade centre that would play an all-round role in rural development - providing community services, extension work, and employment opportunities as well as formal training. The older, larger Brigades, particularly Serowe and KRDA, still subscribe to this ideal. And several newer, smaller Brigade Centres, such as Kanye with its Community Education Programme proposal and Palapye with its Tswapong Hills Extension Centre programme, have plans to make extension work and part-time training more important parts of their activity. Indeed, Mahalapye Development Trust is now wholly concerned with providing part-time training in immediately useful skills like sewing, handicrafts and carpentry.

3.38 On the whole, Brigades were favourable to the idea of part-time training, such as a week-end course in a specific skill like bricklaying or putting in a door. However, most respondents pointed out that it would make large demands on administrative, managerial and instructor staff and there are already manpower shortages at these levels. (It should be noted that a number of centres already offer part-time academic courses e.g. literacy support to Botswana Extension College correspondence courses.)

Provision of Residential Places

3.39 Five centres offered residential places for trainees in 1977 - Tutume 78, Lobatse 40, Madiba 12, Chobe 8 and Ngamiland 5.

3.40 Only one Brigade Centre, Madiba, is in favour of more residential places. All the others are opposed on practical grounds - because of the extra expense and administration - and on philosophical grounds - that it would not encourage the trainees to be self-sufficient and would make Brigades like secondary schools. All Brigades are located in reasonably large population centres and find no problem with trainees getting lodgings (though Lobatse noted the rising level of rents). However, the new Brigade Centre in Kang, which has a very small population, predicts that this could be a problem once it starts recruitment.

3.41 On the whole, siting is not seen as a problem, though Chobe thought they have a bad site (being neither Kasane nor Kazungula) and Kang thought their remoteness may cause problems. The Kanye centre was moved in 1978 because it was 7 kms outside the village.

Availability of Places

3.42 All but two Brigade Centres felt that there had not been enough places in 1977, but several pointed out that there will never be enough places in relation to the potential clientele.

3.43 Since 1977, most Brigade Centres have increased their total number of trainees, though two said there was an overall decrease in numbers. However, hardly

any new Brigades were started in 1978 - only Draughtsmen at Ramotswa, Food Processing at Serowe, and Automechanics at Chobe.

Personal Attributes Affecting Access

Formal Age Requirements

3.44 Most Brigades have a formal minimum age requirement of 16 for most courses (though in some cases it was higher, e.g. 18 for building at Madiba, and 20 for Serowe Dam Building Brigades, and in one case lower, 14 at Tutume). Most have a maximum age limit of 25. In some Brigades there is no specified requirement, but 16-25 are the informal limits, with exceptions in special circumstances.

3.45 The primary reason specified for setting 16 as a lower age limit is the need for some physical maturity for most skills. (Indeed, Madiba said size rather than age was the most important requirement for its building Brigade.) The main reason for 25 being the upper limit is that over that age people begin to have family responsibilities and cannot cope with Brigade conditions. Respondents agreed that the age limits were a selecting mechanism but felt they were justified.

3.46 It was noted that the primary school-leaving age is dropping (because of the lower school entry age and automatic promotion) and that many Standard 7 leavers are only 13 to 14. They regress educationally in the next two years and often fail the Brigade entrance test at 16. This is one reason behind the establishment of the 'Bridging Course' at Serowe in 1975 which took 35 trainees (25 male, 10 female) between 13 and 16 on a 3 year course, which included academic education, skill training and productive activity. No other such 'Bridging Course' was being

offered in 1979 though KRDA is considering one. Such courses would necessarily create additional problems of finance and manpower.

Formal Selection Based on Sex

3.47 No Brigade Centre in 1977 made a selection for courses deliberately based on the sex of candidates (except Tutume for dressmaking). It was pointed out that cultural attitudes towards certain jobs meant that the applications were self-selecting, e.g. women for textiles, men for building. All Brigades would welcome a change in this pattern and isolated cases were cited e.g. a girl in a Building Brigade in Shashe. (There seem to have been some changes since 1977, e.g. Madiba has one girl in welding and two in automechanics.) It should be noted that Serowe made a conscious attempt with the Bridging Course entrants in 1977 to break down the identification of particular trades with a particular sex.

Health Requirements for Selection

3.48 The majority of Brigade Centres has no formal medical test and therefore no explicit health requirements. Tswelelopele administers a check up, and Tutume requires a medical certificate. Some ask medical questions on their application forms and one tests candidates who look ill. An informal criterion for trades like building is applied, namely that candidates should look strong and fit.

3.49 Medical checks are looked at as a useful device, not to exclude people but to help them. It was pointed out that usually people with a physical handicap would not be able to join the Brigades, though KRDA has a few handicapped students.

Selection from Particular Geographical Areas

3.50 Five of the eleven centres said that they gave preference to candidates from the immediate area, adding that the centre's philosophy was to serve the community. Three centres emphasized that their recruitment was on a national basis. The other three said they had no deliberate policy but in practice trainees came from the surrounding area.

Current Recruitment and Selection Procedures

3.51 All the Brigade centres (except Mahalapye which has no new formal courses) advertise their courses and invite suitable applicants to their centre for a day or two for tests and interviews.

3.52 Courses are advertised nationally through the Daily News and through a leaflet on Botswana's Brigades circulated by Brigade Development Corporation to all primary schools. Serowe, Tutume and Ngamitlale also use the radio. Locally, the centres use posters, visits to primary schools, circulars, announcements at kgotlas, and word of mouth via trainees, friends, relatives and extension workers.

3.53 Most respondents were satisfied with this process on the whole and thought it reached the potential clientele. However, several pointed out that the Daily News only reaches the bigger villages, particularly along the line of rail, and this is to the disadvantage of people in more remote areas. (Serowe in 1979 deliberately tried to reach remote area dwellers by getting the Remote Areas Development Officer to provide transport.) It was also pointed out that word of mouth has limitations as information is sometimes monopolised by certain sections of the community or restricted to friends and relatives of current trainees.

3.54 Having received applications in response to their formal and informal advertising - applications come in throughout the year - the Brigade Centres reply to suitable applicants (either to a shortlist or to all with the minimum qualification) inviting them to the centre for tests and an interview. Applicants have to pay their own travel expenses and this was identified as a constraint, though its magnitude could not be estimated.

3.55 The applicants who arrive are given tests, usually in English and Maths and in aptitude. Originally the tests were supplied by the Regional Testing Centre but these were not designed for the Brigades and more and more Brigade Centres have devised their own tests. (There is however no national standardisation of Brigades entrance tests.) Candidates are then interviewed. In smaller Brigade centres the panel often includes the co-ordinator, some trustees and managers, and sometimes a technical instructor and/or academic teacher. In the larger centres the panel is unlikely to have the co-ordinator or trustees, and at Serowe (which processed 310 applicants in 1979) there were panels for each Brigade, which included trainee members.

Provision of New Courses

3.56 The majority of the Brigade Centres said that they mount new courses in order to meet local needs. For example, Kgatleng Development Board is considering an electrical brigade because electricity reticulation has just been introduced into Mochudi. The identification of community needs is usually done by the co-ordinator who then puts a proposal to the Board of Trustees, who respond as community representatives.

TABLE 3
COURSES OFFERED IN 1977

Course	Level	Duration	Centre											
			Kanye	Kgatleng	K.R.D.A.	Lobatse	Madiba	Mahalapye	Ngamiland	Palapye	Serowe	Shashe *	Tswelopele	Tutume
Building	Trade Test C	3 years	+	+	+	+	+		+	+	+		+	+
Advanced Building	Trade Test A & B	1½ to 2 years	+								+			
Carpentry	Trade Test C	3 years		+		+	+		+	+	+			+
Textiles/Dressmaking	Ministry of Education	1 to 2 years			+			+		+	+			+
Automechanics	Trade Test C	3 years			+		+				+			
Electrical	Trade Test C	3 years					+				+			
Tanning & Leatherwork	No Test	3 years									+			
Printing	?	?									+			
Knitting & Sewing	No Test	1 year	+										+	
Welding, Metalwork, Panel Beating	Trade Test C	3 years		+			+				+			+
Machine Fitting	?	?												
Dam Building	N/A	N/A									+			
Advanced Automechanics	Trade Test B	1½ years			+		+							
Advanced Electrical	Trade Test B	1½ years					+				+			

* No information was available for Shashe at the time of writing.

As the Secretary of KRDA said, new courses 'relate to the needs of the community as seen through the eyes of trustees and staff'. On the whole, co-ordinators felt that at present too much initiative came from Brigade staff and too little from the Board of Trustees and the community itself.

3.57 Three Brigade Centres do seem to have ideas on more direct identification of needs. Mahalapye Development Trust started its Baitiredi Family Centre after an extensive community survey based on interviews. Kanye Brigades Development Trust and Palapye Development Trust both have plans to hire an adult educator with an important role in discovering community demand, particularly for short courses.

3.58 One Brigade Centre, Madiba, claimed to be considering a new course for borehole mechanics at the request of Brigade Development Corporation, which was in turn responding to a request from the Ministry of Mineral Resources and Water Affairs. This was the only example of a response to a request from the Central Government.

3.59 Finally, Serowe Brigades Centre, because of its size and large impact on the village economy, presented a more complex response. Courses were started at Serowe on the principle of providing rural employment, which could only be achieved by a diversification of the local economy. In particular, the economic cycle of demand and supply had to be shortened and contained within the village - for example, by establishing a Farmers Brigade and a Food-processing Brigade, and also Spinners and Weavers Brigades. This process of expansion and diversification also meant that some courses had to be established to provide trained people who could service other activities, e.g. mechanics.

Serowe's response reflects its Secretary's conception of Brigades as an instrument for restructuring village economies rather than as simply a means of providing throughput training for young people.

Expansion - Plans and Constraints

3.60 Six Brigade Centres have plans for new Brigades to begin in 1979 - Chobe (Builders), Kanye (Automechanics), Kgatleng (Electrical), Lobatse (Plumbing), Madiba (Borehole Maintenance) and the new centre in Kang (Builders, Forestry and Tanners). Most of these will have an intake of at most six trainees, except for Matsha's Builders Brigades which intends to take 20. A number of centres (Gaborone, Kanye, KRDA, Mahalapye, Palapye) would seem to have philosophical reasons against giving priority to more throughput training for certificates. Their plans for expansion centre on informal training activities aimed at reaching older, poorer people and increasing their job opportunities and productivity. Tutume mentioned the need to link training provision with likely employment.

3.61 Respondents overwhelmingly identified the shortage of skilled manpower as the major constraint on expansion. All Brigade centres have difficulties getting managers ('the scarcest resource in rural development in Botswana' as the Secretary of KRDA put it), teachers and instructors. The Brigades are still excessively dependent on expatriates. Three respondents stressed that getting capital to start projects presented no problems.

3.62 Two respondents identified unique constraints. Chobe said that their emphasis is on training for the local employment market and as they serve an area with a population of 5,000 they will always remain small.

Serowe, which expanded rapidly in 1976 and 1977, has been strongly advised by the Government not to expand further. It would like to expand in terms of further diversification, so that more skills could be taught, and in terms of higher levels of training in existing skills. It does not want to simply expand its current programmes of training.

Access to Skills Training

3.63 On the issue of access to institutional skills training, several themes recurred and are recorded below because of their frequency. Some isolated view-points are also recorded because of their particular interest and significance.

3.64 The Secretary of KRDA thought it was important to emphasize that Brigade Centres are neither static nor homogeneous. Rather, they are rapidly developing institutions with varying philosophies and training programmes. Unlike traditional vocational training schools, they are flexible, responsive and complex organisations. Above all, they are not only concerned with training but they also act as employers, producing goods and providing commercial services; they provide formal and non-formal education; they do community and extension work; and, they experiment with new technologies and industries.

3.65 These remarks are important because most of the respondents raised the questions: What is the purpose of the Brigades? Who should they be training, and what for? What role should they have in rural development? These questions are significant because access has to be assessed both in terms of the institution's target clientele and in terms of demand from different social groups.

3.66 Two clear but opposing viewpoints on the role of the Brigades emerged from the spectrum of answers given:

- The majority expressed the view that the Brigades should aim at making throughput training of primary school leavers for the modern sector more efficient by raising entrance requirements, by taking younger people, by improving academic background and the standard of skill training, and by recruiting on national basis. It perceived the Brigades mainly as an answer to the primary school leavers employment problem and as an institution for trade test training. Concern was also expressed by several respondents that Trade Test C was itself too low a goal, producing only a semi-skilled worker who would only get low wages.³
- A significant minority shared the view that the Brigades should primarily be concerned with informal training for adults in the local community by aiming at older people, by providing short and part-time courses, by disregarding academic qualifications, and by training in skills immediately useable for making an income in the local economy.

3. However, with estimated annual intake by Brigades of school leavers standing at somewhere between 4% - 6%, it is clear that the Brigades are not a solution to the primary school-leavers problem. Indeed, it has been recently estimated that in 1979 roughly 50% of all Standard 7 leavers proceeded to some form of secondary education.

3.67 It was generally argued that for the Brigades to develop, and therefore to provide more training opportunities, they need to become financially viable organisations. They are currently too heavily dependent on donors, volunteer staff and Ministry of Education subsidies. If they were more commercially profitable institutions, they could subsidise certain sections within their own organisation, for example, a commercial blockyard or supply store could finance non-income generating community education work.

3.68 On the whole, respondents thought the Brigade system should be expanded; that training should be more closely linked to employment opportunities; and that the Brigades should take a role in employment creation (e.g. by capital loans to graduates). None-the-less, it was readily conceded that given the magnitude of the primary school leavers and of rural unemployment and under-employment, the training opportunities provided by the Brigades will always be less than the potential demand. So the question of access only relates to how a few more individuals may enter the system. This is why the question of whom Brigades are aiming at is of such crucial importance. Another important issue is whether they should orient themselves more towards imparting useful skills for rural industries.

The Prisons

3.69 Although Botswana's Prisons are not primarily intended to train inmates in the acquisition of manual skills, and although there has occasionally been some feeling that they should be institutions of punishment, and not 'technical colleges', they do engage in a significant amount of training and production, through the Prison Industries Programme. Hence, they have been

included in this section of the report. In 1977, there were 17 Prisons in Botswana with a total of 3,288 convicted prisoners during the year. Of these, 2,864, were men, 270 women, 133 boys and 21 girls.

Training in the Prisons

3.70 About 20 years ago, training and production began on a very small scale, with woodcutting, tailoring, and carpentry. Since then, training activities have greatly expanded, both in variety and volume, although Gaborone is the major centre for such developments. The following data are taken from the Maximum Security Prison's daily returns for April 11th 1979.

Trade	Prison Trainees
Carpentry	52
Tailoring	18
Leatherwork	15
Gardening	32
Brickmaking	52
Upholstery	3
T O T A L	132

3.71 The work-benches for the first 3 activities are heavily overcrowded. Women do gardening, dress-making, knitting, leatherwork and weaving. In 1978, several Prisons created Building as a separate unit, to train prisoners and reduce the costs of erecting staff houses and facilities. Central government Departments also utilise supervised prison labour for various purposes.

Training Objectives

3.72 Prisons literally have a captive audience, and obviously entry requirements for the Prisons training programme relate to offences against society rather than educational background. Yet access to Prisons training programmes may in fact be more 'open' than in many conventional training establishments because the prison authorities often attempt to find out what a prisoner is best at, and develop these talents.

Prison Industries Programme

3.73 Reasons given for the Prisons training, production and rehabilitation programme are:

- to ensure no subsequent relapse into crime;
- to transform prisoners into productive members of society; and,
- to reduce maintenance costs, e.g. by producing vegetables and artifacts for sale (and internal consumption of surplus) and by using prisoners' bricklaying and brickmaking skills to build additional premises for the already overcrowded Prisons.

3.74 The following extract from the Annual Report (1977) indicates the range of activities pursued under the Prison Industries Programme:

"Prison Industries continued to be one of the areas in which some prisoners were usefully employed in order to train them to be semi-skilled and where possible to be skilled in their trades. Such a training is intended to first off-set the maintenance costs, though in a modest way, and on the other hand to make it possible for the offenders to find employment upon release and thereby reducing recidivism.

Prisoners were trained and employed in a variety of industrial activities at larger prisons. Training was offered in carpentry, leatherwork (Gaborone Central Prison and Women's Prison only), tailoring (Gaborone Central Prison only), brick moulding (a major source of prison revenue) and manufacturing of various traditional artifacts such as grain stamping mortars or blocks, wood carving etc.

Out of 13 prisoners who were trade tested, 8 of them managed to pass. These prisoners came from Gaborone Central Prison, First Offenders and Francistown Prisons where there are qualified instructors. It is intended to steadily increase the numbers to be trade tested annually. Three technical posts which remained unfilled throughout the year lowered the industrial activity.

Revenue derived from Prison Industries was P128,032.21 which was some 7.53% in excess of the target figure.

On the 28th April, 1977 the Chinese Agricultural Team visited Gaborone Prison Gardens and subsequently made a survey of the prison farm and took sample soils for purpose of analysis with a view to providing an advice to assist in vegetable production and irrigation.

During the year a total of 131,760.77 kg. of vegetables were produced."

Training Organisation

3.75 The Director of Prisons has overall responsibility for the training programme, and the day-to-day management is in the hands of the Industrial Manager, who works with inadequate secretarial staff, and in overcrowded office space. The current training establishment is as follows:

1	Industrial Manager	-	(T1)
1	Senior Technical Officer	-	(vacant)
4	Technical Officers	-	(T3)
1	Senior Technical Assistant	-	(T4)
3	Technical Assistants	-	(T5)

3.76 All technical staff are based in Gaborone, except one Technical Officer in Francistown, and one Technical Assistant in Selebi-Phikwe. Because it has proved impossible to recruit suitably qualified staff, 2 Technical Officer posts and 1 Technical Assistant post have been frozen. Only a few recently recruited members of technical staff were trained in Botswana at the BTC and NCVT. The original qualification required is Trade Test A, but this has proved too exclusive, and has been lowered to Trade Test B. Nevertheless, it is still extremely difficult to recruit for existing posts. There is no formal Training Committee within the Prisons, and the Prisons are not represented on either the Technical Training Committee or the National Vocational and Technical Training Board. The Industrial Manager meets, when necessary, with the officers in charge, and is interested in developing greater contacts with other institutions.

Training Facilities and Constraints

3.77 There are 3 workshops in the Maximum Security Prison, but these can only absorb a limited number into the Industrial Section. Many others work outside on brick-production and in the garden. The women use the dining hall. All training and production accommodation is seriously overcrowded, as the prison population continues to grow. There is no machinery, and mostly hand tools are used, partly because of expense, and partly because this more closely approximates towards the conditions outside. Funds are desperately needed for more workshops, but are unlikely to be forthcoming in the foreseeable future. The 1979/80 estimates do not envisage such expenditure, as the departmental ceiling has already been reached.

3.78 A major constraint upon the expansion of training in the Prisons is staffing. Staffing needs for the existing programme are heavy, and instructors are required in tailoring, leatherwork and carpentry. Prisons would like to expand their workshops, each divided into training and production sections, but this would require at least 3 instructors for each workshop. To accomplish this, there would need to be an expansion of the Prisons training staff at the rate of at least 100% over the next few years.

Certification

3.79 The Trade Testing Unit awards certificates in some trades (e.g. carpentry and building) but it does not cater for all trades offered (e.g. tailoring, upholstery and leatherwork). Proper training and certification is lacking, and Prisons would like to explore with the Trade Testing Unit better ways of assessing, and awarding certificates. They wondered whether the T.T.U. could not make use of suitably qualified Prisons Officers as a resource for examinations. For example, the Prisons have a qualified tailoring instructor, but T.T.U. does not. Prisons are reluctant to issue their own certificates, but rather hope to help prisoners find employment on release. Many ex-convicts ask for references regarding their training.

Follow Up

3.80 There is just not enough staff to follow-up ex-convicts to see whether they subsequently gain employment.

Plans

3.81 Prisons envisage a gradual improvement in their Prison Industries Programme. Firstly, they plan to build additional workshops. A project memorandum is in preparation to secure funds for some industrial workshops, at least in Gaborone, to relieve the congestion. This will also enable bulk production. Currently, because it is so small-scale, production depends heavily upon demand. Secondly, plans are afoot to further develop vegetable production by irrigation. This scheme is included in the current National Development Plan, but shortage of funds has continued to cause delay in its implementation. Lastly, prisons are constantly looking for ways to train and up-grade their own staff.

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CHAPTER 4

EMPLOYERS AND MANUAL SKILLS TRAINING

Introduction

4.1 Part of the UNESCO Study was an investigation of manual skills training provided or sponsored by the employers. This consisted of an examination of the training opportunities provided by the employers and also their general attitudes to training. The purpose of the investigation was to discover the major problems of manual skills training from the perspective of the employers, with particular reference to those factors or constraints limiting or precluding access of their manual employees to training.

4.2 The investigation concerned itself with all levels of manual skills training provided or sponsored by the employer, from rudimentary training at the semi-skilled level to advanced craft or technician training.¹ The

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1. The term 'technician training' in this context generally refers to advanced craft training (Grade A and B Test Certificate) or its equivalent. The meaning of technician is variable and ambiguous, although traditionally the technician was considered as different from and superior to the craftsman or artisan. However, in the present time, this distinction between technician and craftsman, as a result of sophisticated training, has become ambiguous and irrelevant. It was clear from our survey, that in certain instances within the public sector, the concept of technician, especially when referring to lower level technical officers, was congruous with an advanced level craftsman or artisan. Consequently, lower level technician training could be considered in this sense the same as or equivalent to an advanced craft training.

investigation concentrated on formal training schemes, whether within a training institution or on-the-job, or both, but also took account of informal on-the-job training outside any formal training scheme. A cross-section of employment establishments was surveyed, representing both public and private sectors, and including small as well as large establishments.

4.3 The analysis is presented in four parts: the first concerns the public sector (a number of Government departments and parastatal bodies); the second part focuses on the mining companies; the third part deals with other private sector companies and businesses; and the final part gives a summary of findings and conclusions.

Government Departments and Parastatal Organisations

4.4 As part of the survey of employers, a number of Government departments and parastatal organisations were visited. The Government departments visited were the Central Transport Organisation (C.T.O.), Department of Posts and Telecommunications and the Roads Department, all under the Ministry of Works and Communications. The parastatal bodies visited were the Botswana Meat Commission and the Botswana Housing Corporation.

The Provision of Manual Skills Training

4.5 There is considerable variation amongst the establishments visited, with regard to the provision of manual skills training. However, with one or two exceptions, training opportunities are adequate. Indeed, in some cases there are well-developed training programmes largely based on a training centre or trade school within the establishment. Usually the main component is craft or technician training for school-leavers. The following is a summary of the training provided by each of the Government departments and parastatal bodies visited.

Department of Posts and Telecommunications

4.6 The main component of training is the basic two year sandwich programme of technician training in telecommunications at the Training Centre of the Department. The Programme consists of a general theoretical course in the first year and a specialised course in the second year. At the end of this programme, the trainee takes the City and Guilds examination and if successful qualifies to be a technical assistant. Following a period of work, suitable technical assistants have been recommended for further training at an intermediate level in Malawi. A few have also proceeded to a third stage of advanced level training in Nairobi.

4.7 A second type of manual training available within the Department consists of specialist courses for Industrial Class employees. These courses cover a number of job skills e.g. erecting overhead wires, fitting underground cables. Such courses enable the Industrial Class employee with sufficient years of service and experience to progress from Groups 4 and 3 to Groups 2 and 1. The Group 1 employee, the highest level in the Industrial Class, is equivalent in his skill proficiency to a basic level technician or craftsman. In fact, the Department is in the process of effecting a scheme whereby Group 1 employees may switch to the technician section and undertake technician training.

Central Transport Organisation

4.8 Most of the manual skills training undertaken by the Central Transport Organisation is centred on its own training school. The most important component of training is the craft training programme largely for school leavers. This programme lasts for three

years and covers the main trades related to motor transport e.g. auto-mechanics, welding, fitting and panel beating. The trainee may specialise in any one of these skills. The successful completion of the programme qualifies the trainee for a Trade B Test Certificate, and he is then considered a technician at level T5. After three years service the technical officer with Grade B may be promoted to T4. The craft training programme currently caters for 86 trainees.

4.9 The training school is also concerned with upgrading of technicians. Those holding the Grade B certificate are able to proceed to Grade A certification. This entails a series of short but concentrated courses combined with on-the-job training designed to prepare trainees for the Grade A test. Those who have gained the Grade A certificate may be promoted to T3 level.

4.10 The third aspect of training at the CTO is the training of drivers in the transportation section. Those holding a driving licence with two years driving experience are given a short defensive driving course. Those taken on with no driving licence or experience are given 50 days training. The drivers belong to the Industrial Class, usually Groups 2 - 4.

Roads Department

4.11 The training in the Roads Department is centred on the Roads Department Training Centre. The major training requirement is in civil engineering and plant operation for road building and maintenance. The training programme has only recently been in force. It is divided into four levels. At the highest level there is the technician course (A course) in civil

engineering, lasting 3 years. At the next level there is the B course in supervisory plant operation training. This is a 2 year sandwich course and provides practical training for senior plant operators and foremen. At a lower level, there is the C course for assistant plant operators. This is a sixteen-week long course in basic plant operation. This course qualifies the trainee to be a plant operator. Lastly, there are D courses; these are short specialised courses of about two weeks, for upgrading purposes.

Botswana Housing Corporation

4.12 The Botswana Housing Corporation utilises a wide range of manual skills, e.g. carpentry, bricklaying and plumbing, for the maintenance of its existing housing stock. However, it does not have a formal training establishment nor does it support manual employees for training at the NCVI. There is some on-the-job training, but there is no formal apprenticeship scheme.

Botswana Meat Commission

4.13 The major training requirement of the Botswana Meat Commission is in meat processing. The main component of training is the training scheme in meat processing lasting 27 months, designed for school leavers. The training is entirely on-the-job under the supervision of charge-hands and foremen. The completion of the 27 month period of training allows the employee opportunity to move up to the skilled and supervisory grades viz. Groups 2 and 1.

4.14 There is also some on-the-job training in the trade skills, such as fitting. In addition, a few workers have been sent to the NCVI for upgrading. However, there is no policy of regular sponsorship or formalised craft training or apprenticeship schemes.

Constraints on Access to Manual Training

Availability of Training Opportunities

4.15 The availability of training opportunities significantly increased with the development of a training centre within the establishment. Most of those interviewed were confident that their training centres could meet training requirements within the near future, if not at present.

4.16 In the absence of a training centre, or trade school, opportunities for training have tended to decrease. However, the lack of a training centre or trade school within an establishment could be partly compensated for by the provision of a formal scheme of on-the-job training and/or sponsorship to the NCVT, e.g. Botswana Meat Commission. But in the case of the Botswana Housing Corporation, which has no training centre or trade school, there is neither significant sponsorship to the NCVT, nor formalised on-the-job training in the form of apprenticeship schemes.

4.17 However, for certain types of advanced skills training, sponsorship to the NCVT has not been possible. In the case of the Botswana Meat Commission, Posts and Telecommunications and the Roads Department, the major training requirements are of a specialised nature, outside the normal technical trades. Clearly, such training requirements can not be catered for by the existing NCVT given its present scale and scope with the predominant emphasis on trades. Nevertheless, consideration should be given to how far, if at all, the development of a Polytechnic institution should incorporate

such specialised forms of training, as meat processing, civil engineering and road building, and telecommunications which have relevance only to a particular establishment.

4.18 Within the sample of parastatals and Government departments, a substantial segment of the manual work-force is unskilled or semi-skilled, sometimes referred to as the Industrial Class. It was noticeable that training opportunities for this category are limited. This applies particularly to upgrading at the semi-skilled level and training at the craft level. There are, it should be recognised, basic difficulties in upgrading and training unskilled and semi-skilled workers such as the lack of educational qualifications and the low level of literacy, as well as a lack of motivation on the part of the worker. Nevertheless, those within this group, often with long experience of manual work and proven reliability are a potential reservoir of skill. Accordingly, more attention should be given to improving their chances of upward mobility into the skilled grades. It should be added that in one or two cases, and most notably telecommunications, a serious effort is being made to incorporate a selected number of the Industrial Class, into technician level training.

4.19 Throughout the survey of parastatals and Government departments, it was difficult to assess how far the provision of training and upgrading opportunities satisfied the aspirations individually of the manual work-force. The question remained unanswered of how many manual workers especially in the unskilled and semi-skilled grades, who wanted training, were denied it through either inadequate sponsorship or lack of a formalised in-house training

programme. Denial of training opportunities may also be attributed to the manner and criteria of selection; this issue will be discussed below in more detail.

Suitability of Training Courses

4.20 In drawing up the list of possible constraints on access to training at the beginning of the study, it was considered that the suitability or relevance of training courses would be an important factor in shaping the attitude of both the employer and employee. Some of the respondents in the parastatal bodies and Government departments expressed misgivings about the suitability of sponsored training at the NCVT. According to the employers, the failure of the NCVT in this respect is in part due to its inability to shape courses to meet the particular needs of the parastatal body or Government department.

Selection of Trainees

4.21 In the course of our survey, it became evident that the selection process itself could have a crucial influence on access to manual skills training. For school leavers, selection for a training programme is synonymous with selection for employment. This is especially so if the training programme is provided by the establishment within its own training centre. In other words, the trainee is often considered to be an employee of the establishment.

4.22 For training at an advanced level of skill, e.g. technician and craft level, the entrance requirement is usually a formal educational qualification such as a Junior Certificate or at a higher level Cambridge Ordinary Level Certificate. The respondent for Telecommunications stated that Cambridge Certificate

is preferable to Junior Certificate, but due to the shortage of Cambridge Certificate holders, Junior Certificate holders are often recruited. However, the respondent for the CIO considered the Cambridge Certificate of no greater relevance than the Junior Certificate.

4.23 In one or two cases previous job experience and a previous rudimentary skills training, e.g. a grade C Test Certificate, are also considered valid credentials for advanced skills training.

4.24 In most cases, the selection procedure includes interviews and in one case a mechanical aptitude test. The interview is designed to ascertain personality characteristics, motivation and interest, attitude to training and work, etc. as well as basic knowledge and competence.

4.25 The selection procedures and criteria referred to above, are clearly appropriate and necessary. However, the stress on formal scholastic attainment should not be exclusive: job experience and previous informal training should also be recognised as valid criteria of selection. This has relevance to the provision of training opportunities to the unskilled or semi-skilled who lack formal qualification and have limited numeracy and literacy.

4.26 Selection for training at the semi-skilled or sub-artisan level, amongst the established sub-artisan or unskilled work-force, is often based on recommendations by foremen or others within supervisory positions. This also applies to those within skilled grades who want further specialist training. Thus on-the-job assessment and recommendation is of crucial importance to upgrading. However, it is necessary

that the assessment of a worker or craftsman by a foreman or supervisor should be carefully monitored. This would ensure that the judgements so made are as objective as possible, and the standard of assessment both reasonable and consistent. A situation should be avoided whereby one supervisor is more likely by the standards he uses, to make more generous recommendations than another supervisor.

Other Constraints

4.27 There are one or two other minor factors which influence access to manual skills training. In one or two instances women were excluded from training, owing to their unsuitability for heavy manual work (as well as to the social convention whereby women neither desire nor are expected to enter technical manual work). There was no evidence of an age constraint on access, but it was obvious that selection for most forms of training, especially craft training, was biased in favour of the young. Another possible constraint on access which should be mentioned, is lack of knowledge of training opportunities by both the employer and employee. In cases of training courses run by the NCVI, there was evidence that the management of some establishments was not sufficiently informed or did not seek information about such courses.

Private Sector - Mining

4.28 The two major mining companies in the country were visited. These are the diamond mining company at Orapa, De Beers Botswana Mining Company (Pty.) Ltd., and the copper mining company at Selebi-Phikwe, B.C.L. Limited (formerly Bamanqwato Concessions Limited). This section outlines and analyses manual skills training at the two mines.

De Beers

4.29 The main component of the manual skills training provided by De Beers is the training programme for apprentices or craft trainees. For entry to the craft trainee programme, the company emphasises, as a minimum, Junior Certificate attainment in Maths and English and if possible Cambridge School Certificate (Form V). The duration of the course is five years. The first year is spent at the NCVI under company sponsorship where the trainees receive an introductory skills training. The remaining four years are spent at the mine, alternately on block release at the newly developed Training Centre at Orapa or on the job in various parts of the mine complex. In the fourth and fifth years, the training is theoretically oriented and classroom learning plays a significant role. It should be pointed out that craft trainees, having left the NCVI after their first year sometimes return to the NCVI for block release training at various intervals in the remaining four years of the programme. At the end of the five years the trainees are promoted to craft status on successful completion of their trade assessment. The company provides its own certification, rather than using the National Certification of Skill.

4.30 In February 1979, there were 67 craft trainees. Of those in years 2 - 5, there were 13 trainees in Fabricating/Welding, 10 in Automechanics, 12 in Electrical Theory and 11 in Fitting.

4.31 The company provides two other types of training. Firstly, there is specialised training, mainly on-the-job, for those involved in mining operations e.g. blasting and drilling. Secondly,

there are also some upgrading courses for sub-artisan and unskilled workers up to semi-skilled level equivalent to third year apprenticeship. Workers with limited craft training often serve as helpers or 'mates' to the craftsman.

B.C.L.

4.32 At B.C.L., the Mechanic Training Scheme is the main input for training in manual skills. The trainee mechanic is recruited from among company employees. He is normally an artisan helper. Selection for training is made on the recommendations of frontline supervisors. As for academic qualifications a Standard VII pass is considered to be "desirable but not essential". There are four grades of Mechanic: III, II, I and Leading Mechanic. All entail a minimum of two months full time training in the Training School followed by a minimum of two months on-the-job training. Thereafter, a mechanic trainee is required to serve a certain minimum period in the grade he has attained before being selected for the next grade of training. The duration of the course is seven years. The major part of the training - possibly up to 90% - is done on the job rather than in the classroom. The company provides its own certification.

4.33 As in December 1978, the break-down of citizens in the various Mechanic grades was as follows:

<u>Grade</u>	<u>Number</u>
Artisan (fully trained craftsman)	16
Leading mechanic	47
Mechanic I	66
Mechanic II	97
Mechanic III	114
Total	340

4.34 The company also has an apprenticeship scheme which is similar to the one run by De Beers. The duration of the course is five years. The entry requirement is either a Junior Certificate or Cambridge School Certificate. Trainees are normally seconded to the NCVT for an initial period of twelve months followed by periods in industry. In December 1978, there were 38 apprentices, of whom 8 in year two, 11 in year three, 6 in year four and 13 in year five.

4.35 Other training schemes for which a Junior Certificate or Cambridge School Certificate is required include learner miners and winding engine drivers. Furthermore, the company provides some training in the semi-skilled fields e.g. crane drivers, fork lift drivers, light and heavy vehicle drivers, other operators.

4.36 Both mining companies gave the clear impression that they considered their own training programmes suitable and sufficient for their respective needs for trained manpower. Even though both, to varying extent, make use of training facilities at the NCVT, they expressed dissatisfaction with the nature and scope of NCVT training programmes. In their view, such programmes are too general and hence lack focus on a specific trade or skill. Another equally important reason for dissatisfaction with the NCVT training programme is the fact that the employers by and large have no say either in the course content or in the discipline of the trainees at the NCVT. Accordingly, the two mining companies consider their own training programmes more effective from the viewpoint of control over course contents and discipline among trainees.

4.37 The location of the NCVT is not considered to be ideal from the point of view of the mines. Moving people hundreds of kilometers away creates major practical problems.

4.38 The training programmes at both companies have a number of common features. Most important among these is the emphasis on practical on-the-job training. In general, the training programmes at the two mining companies entail more than seventy-five percent practical experience either on the job or in the training workshops. This emphasis on practical training is believed to be desirable in that it ensures rigorous job training without ignoring the theoretical component.

4.39 The apprenticeship schemes at both mines are designed for school leavers with Junior Certificate or Cambridge School Certificate. A common feature of the actual selection for apprenticeship training is the use of standardised tests. These are used more extensively at De Beers than at BCL.

4.40 Both mining companies consider the poor educational background of their trainees as one of the greatest constraints to training. From time to time, a good number of trainees have been forced to curtail their training due to lack of sufficient educational background. Proficiency in the English language is considered as one of the most important requirements for entrance to craft training. Due to poor education the vast majority of the workforce at both mines is considered untrainable.

4.41 The cost of training and the loss of manpower are not considered as major obstacles to the provision of training opportunities. Rather, both mining companies view training as an investment for the future.

4.42 There is no evidence of formal discrimination against women, yet few women are in fact undergoing training in manual skills at the two mines. At BCL we were told that four women had been trained as airconditioner mechanics. There is no formal age barrier either, although the major training programmes appear to cater mainly for fresh school leavers. BCL's mechanic training scheme is, however, a notable exception.

4.43 A notable distinction between the two mines is the extent of provision of training opportunities for the semi-skilled work-force. The mechanic training scheme at BCL is essentially an up-grading scheme which allows semi-skilled workers to become fully qualified artisans. De Beers does not have such an up-grading scheme for the semi-skilled work-force.

Private Sector - Non-mining

4.44 Among the companies visited were the following:

- (1) Minestone Botswana (Pty.) Ltd :
Building, Housing, Civil Engineering
and Plumbing Contractors;
- (2) Kalahari Ford : Ford Distributors
in Botswana;
- (3) Botswana Furniture Manufacturers (Pty.)
Ltd : Domestic, Office and School
Furniture Manufacturers;

- (4) Botswana Game Industries (Pty.) Ltd., Francistown;
- (5) A small tannery based at the Botswana Enterprises Development Unit (BEDU) estates in Mochudi near Gaborone.

Minestone

4.45 With a non-staff labour force of around 1900 in October 1978, Minestone is the largest construction company in the country. The company's approach to manual skills training is largely ad hoc and strictly functional in that training is for a specific purpose, namely, to meet the short-term manpower requirements of the company. Whenever people with particular skills are needed but are not immediately available the company selects some workers to undertake such training. The company has its own training school. Trainees are selected on the basis of their performance on the job and on reports from charge-hands and foremen. Courses are of very short duration. Trainees spend three weeks in the training school and subsequently two weeks on the job under strict supervision. Occasionally, Minestone also sends selected trainees to the NCVI for courses which are considered relevant and useful. But the company does not send people to train in skills which are not of immediate use because it considers such training as a waste of time and resources. The company expressed the fear that the workers were more likely to forget what they had learned if they were not given an opportunity to immediately apply the skills acquired through training. Thus the timing of a training course is a major consideration to Minestone.

Other Private Sector Employers

4.46 All other private sector employers we visited are small establishments compared to Minestone. None of these has any formal training schemes. Any training that is provided is informal and entirely on-the-job. Most of these small private employers seemed to be more concerned with getting on with production than with training.

4.47 At Kalahari Ford, for example, work is organised in such a way that each of the five or six expatriate artisans is assisted by about three Batswana. After some time - perhaps a couple of years - a few of the more capable Batswana are encouraged to try the trade test for tradesmen. Seven to eight Batswana are reported to have obtained trade test C Certificates in the past three years. There is no classroom teaching at all at Kalahari Ford.

4.48 A rather similar situation exists at the Botswana Furniture Manufacturers. The company simply takes labourers and 'processes' them up to a level where they are able to operate the few machines available and to make a functional item of furniture. The level of workmanship is extremely low. The employer considered that cabinet-making was a highly skilled job but showed little inclination towards training his workforce or towards utilizing training facilities at the NCVT.

4.49 The situation at the Botswana Game Industries and at the small tannery in Mochudi is typical of all small employers: no formal training, only on-the-job development. At the BGI, each division of the enterprise is said to be headed by a skilled artisan who is responsible for on-the-job training within his division. Only a very small proportion of the workforce would seem to have acquired any skills.

4.50 The Tannery is a small family size business employing about sixteen people. Among the jobs done are grading, fleshing, tanning, dyeing, finishing, sewing and stitching. The owner of the business himself supervises the work in an atmosphere characterised by total informality.

4.51 All small employers expressed doubt about the necessity or desirability of formal training through established institutions such as the NCVT. At the same time they could not afford training establishments of their own due to limited resources. Among the reasons given as to why they make little use of the NCVT are the following:

- a. The NCVT courses are often not directly relevant to their needs e.g. the NCVT has little or nothing to contribute to the training needs of the BGI and the Tannery;
- b. many small employers can hardly afford the loss of manpower during training;
- c. the timing of the NCVT course is often not suitable to many small employers;
- d. due to its location the NCVT is not accessible to employers outside Gaborone.

4.52 One common problem which small employers relying on informal on-the-job training face is the lack of skilled artisans who could train others in the workforce. Due to their small size they are not able to attract and retain sufficiently qualified personnel to assist in the training effort.

Indeed, the reluctance of small employers to undertake training is due partly to the fear that the trainees often leave the company soon after completing their training to find jobs with higher pay and better prospects for advancement.

The Botswana Employers Federation

4.53 Apart from talking to individual employers we also obtained the views of the Botswana Employers Federation, the umbrella organisation representing employers in the country. The Botswana Employers Federation has a full time Director. What follows is a summary of views expressed by the Director.

4.54 The educational background of manual employees is very low. This diminishes their chances of being trained. In addition, vocational training is not included in the school curriculum. It is essential for this to be done. Consideration should also be given to the introduction of one or two years national service immediately after school.

4.55 The country's training facilities (including the Brigades movement) are adequate for the production of lower level craftsmen at the grade C level. A lot of problems are, however, encountered in trying to up-grade artisans with basic level training. On the one hand, employers are unwilling to release employees to attend up-grading courses because they are afraid of losing production. As a result, the NCVT is not getting enough candidates for some courses. On the other hand, the NCVT does not have adequate resources and/or does not offer relevant courses to make its training programme sufficiently attractive to both employers and employees.

In addition, the NCVT suffers from lack of staff, lack of accommodation for older trainees and, in part, also from lack of sufficient or suitable equipment. Finally, since the NCVT does not offer part-time (evening) courses, employers find it difficult to take advantage of its training facilities because it is not easy to release staff for training during working hours.

4.56 Institutional training is very important. The bulk of it must however be provided centrally. Only a minority of employers can afford to build and run effective training programmes for their workforce. In any case, too much decentralisation could be a waste of resources.

4.57 The tax incentives provided under the income tax law are useful but inadequate.² Consideration should be given to the introduction of a training levy. This could provide an additional incentive to employers.

4.58 There is not enough coordination and co-operation between employers and the NCVT. There has been certain improvement since the appointment of the Industrial Liaison Officer. But closer links could still be developed.

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2. Under the income tax law in Botswana, until recently a company could claim tax relief at the rate of 125% of the approved expenditure incurred on tertiary education or training of its citizen employees. In the Budget for 1979/80, this relief was extended to all businesses, whether corporate or not, and the rate of relief was raised to 200% of the approved expenditure on such training.

Budget Speech, 1979 p.14.

SUMMARY

Training by Employers

4.59 From the preceding analysis it can be seen that there is considerable variation amongst employers in terms of the extent and types of training they provide or sponsor. Some large employers, for example the mining companies and government departments, have well-developed programmes of training, usually based on a training centre or trade school within the establishment. Although part of such training is centred on the classroom, most employers place greater emphasis on practical experience either on the job or in the training workshops.

4.60 Some employers also send trainees to the NCVT (Botswana Polytechnic) to attend various courses. In certain cases, this is an extension to or necessary ingredient within a training programme undertaken by the employer at the trade school or training centre.

4.61 Most big employers do not consider the cost of training and the loss of manpower as major constraints. Rather, they view training as an investment for the future.

4.62 For the smaller employer, however, the cost of training and the loss of labour are major constraints. With limited resources, most small employers can not afford training schools and are unwilling or unable to utilise the NCVT. The bulk of the training within the small establishment is therefore necessarily informal on-the-job training, and is, moreover, limited by the lack of sufficiently skilled personnel.

to provide the necessary guidance and instruction. In addition, some if not most small employers, have discovered that individuals who receive training within their establishment subsequently leave the employment for better paid jobs elsewhere. In light of this experience, small employers consider training as a waste of their already limited resources.

4.63 In our view, employers have a responsibility to train or to sponsor their employees for training. They should be given every encouragement and positive incentives to do so. Training by the employer himself would complement, not necessarily duplicate, the efforts of centralised institutions such as the NCVT.

Recruitment

4.64 Recruitment to training is of two types: Firstly, recruitment of school leavers directly into a training programme lasting between one and five years; secondly, recruitment from the general population into the ordinary manual work force with the uncertain possibility of subsequent training and upgrading. Entrance directly into a training programme with the ultimate objective of attaining a craft or technician status, is usually dependent upon a formal qualification, viz. Junior or Cambridge Certificate. This is considered a necessary, but in some cases not a sufficient condition for recruitment into craft or technician training. Where the number of applicants exceeds the number of places, further screening is required, which takes various forms: analysis of school reports, interviews and, in some cases, standardised testing.

4.65 In our view, the criteria and procedures of selection are appropriate. However, in the case of standardised tests, their validity and reliability should be carefully considered, and the results elicited from such tests be apportioned less weight than other types of evidence such as interviews, school reports and scholastic achievement.

Prospects of Training for Unskilled Workers

4.66 We also examined the training opportunities available to the unskilled work-force, which within public employment is referred to as the Industrial Class. In our opinion, the unskilled work-force, often with long experience of manual work and proven reliability, is a potential reservoir of skill. However, we were struck by the lack of opportunities for institutional skills training for this category; and accordingly, we feel, more attention should be given to improving their chances of upward mobility into the skilled grades. There are obvious difficulties in training and upgrading unskilled workers, such as the low level of literacy and the lack of educational qualifications as well as lack of motivation. Nevertheless, thought should be given to ways and means of overcoming these obstacles, e.g. adult and literacy education programmes.

Employers' Attitude to Brigades

4.67 A number of employers consider the Brigades as a potentially important source of recruitment. Although they take people with the lowest educational level and can only provide a limited range of training, nevertheless, it is felt that they have improved. The Brigades are not, however, at present equipped to provide advanced skills training over a wide range of skills.

Employers' Attitude to NCVI

4.68 Many employers expressed disappointment with the training provided by the NCVI. It was clear that the NCVI has not lived up to the expectations of the employers and has failed to meet their specific training needs. Various reasons have been put forward: the problems of staffing, the frequent changes to programmes, introduction of new examination arrangements, the lack of an emphasis upon short or day release courses, the lack of dialogue with employers, and the geographical location of the institution. Perhaps the most important factor has been the lack of a stable or consistent approach to the management of courses. A number of employers felt that the shortcomings of the NCVI are reflected in the quality and proficiency of its graduates. Not only do the graduates lack the necessary competence for skilled manual work, they also have a poor attitude to work and work discipline, which is accentuated by an inflated sense of their ability and usefulness. Such misgivings have only served to reinforce the belief in decentralised training in which employers separately undertake training within their own establishments through a training centre or trade school.

Development of Training Institutions

4.69 The trend towards the decentralisation of institutional training is unavoidable, and in certain instances, necessary and desirable where specific training needs must be catered for. To assist the development of training facilities within employment establishments, consideration should be given to a training levy scheme.

It should be pointed out that such a scheme did not receive the unanimous support of our sample of employers. Nevertheless, there is a *prima facie* case for introducing a training levy whereby employers would make a mandatory contribution to a common fund which would then provide finance for the creation and expansion of training facilities within employment establishments. This would give employers a substantial incentive to provide and expand training for their employees. The levy arrangement could be on a national basis, or possibly on industry by industry basis.

4.70 Although decentralised training has basic advantages, nevertheless, in our view, a centralised training institute should be preserved and developed, despite the evident misgivings about the existing NCVI. If the NCVI is to develop into a viable craft training institution, our evidence would suggest the following changes:

- a. greater emphasis on in-service training for trainees with work experience based on short courses and day release programme;
- b. greater stress on inculcating work ethics and work discipline;
- c. closer dialogue with employers to ascertain training needs;
- d. widening the range of training courses to possibly include less well-known skills.

4.71 In addition, further thought should be given to the location of the NCVI. Our survey indicated that the present location discourages those

potential trainees who live outside the vicinity of Gaborone, because of the obvious problems of distance, transport and accommodation. Thought should be focused on the possibility of, in the not too distant future, establishing training centres in the main population centres outside Gaborone.

4.72 In addition, a number of employers we visited felt that the schools have a responsibility for training. Thus, as part of the development of training in this country, it is important that there should be a greater emphasis within the school curriculum on vocational skills training.

Trade Testing

4.73 The evidence collected from the survey of employers suggested basic shortcomings in the Trade Testing system. Employers were generally dissatisfied with the Trade Testing system for a number of reasons, most notably with the lack of a rigorous and consistent standard of testing, and the disparity between the nature of the test and the previous training and day to day work experience of the testee. In the latter case examples were cited of individuals being tested in a way which bore little relation to their work experience. This particularly applied to the equipment on which the test was undertaken.

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CHAPTER 5

SUMMARY OF RECOMMENDATIONS

5.1 The central purpose of the Study was to make recommendations of how access to manual skills training could be improved. In this Chapter we bring together a tentative set of recommendations arising from our data collection and analysis. We hope that these recommendations will be helpful to policy-makers, training institutions, employers, and other organisations involved in training in Botswana.

Recommendations Arising from the Survey of Training Institutions

- 5.2
- a. Co-operation between all parties concerned with manual skills training could be significantly improved. This is essential if such training is to be effective.
 - b. There is a basic staffing problem at the NCVT, and accordingly the appointment of additional staff should continue to be a priority issue.
 - c. Care should be taken that craft-level training is not depleted as a result of the upgrading of the NCVT to a polytechnic.
 - d. Part-time and evening classes at the NCVT should be started as soon as sufficient staff is available.
 - e. Apprenticeship legislation is desirable and would significantly improve the provision and standards of training for apprentices and indentured learners. It is, therefore, a matter of necessity and priority that apprenticeship legislation be enacted within the foreseeable future.

- f. Individual Brigades should be assisted to devise their own selection procedures; in particular English, Maths and aptitude tests should be improved.
- g. The independence of the Brigades movement of direct Government control should be preserved. In addition, the autonomous status of each Brigade unit within the Brigades movement should be maintained.
- h. Prisons should receive a more generous establishment for training and production staff.
- i. Prison training activities are at present mainly concentrated in Gaborone Prison. Attempts should be made to expand these to outlying Prisons.
- j. Prisons should explore with the Trade Testing Unit, better ways of training and certification.

Recommendations Arising from the Survey of Employers

- 5.3
- a. Consideration should be given to the introduction of a training levy scheme amongst employers. Under this scheme employers would make a mandatory contribution to a common training fund. The fund so created, would then provide finance, either for sponsorship to an external training establishment, or for the creation and expansion of training facilities within the employment establishment itself. The levy could be applied on an industry by industry basis.
 - b. There is, at present, significant fiscal incentive for employers to provide training; viz. a 200% rebateable tax allowance. The

application of this allowance to non-company, as well as company, businesses is also a positive development. However, the allowance can only be claimed under the condition that the training is 'approved'. The definition of 'approved' training tends to exclude on-the-job training especially in small establishments. It is suggested that the criteria of approval be made more flexible or broad, so that those smaller employers who provide serious on-the-job training may also qualify for the tax allowance.

- c. The lack of co-ordination and dialogue between the employers and training institutions gives cause for concern. It is argued that employers should be more closely integrated into the planning and monitoring of training programmes at the training institutions. Without such co-ordination, the likelihood is that employers will remain dissatisfied with the training provided by the training institutions. The lack of co-ordination is related to the absence of an overall national system of supervision and evaluation of technical training and testing.

Such co-ordination and supervision could be achieved by the creation of a technical training and testing council. Representation on such a body should include, in equal proportion, all interested parties, from Government, employers and trade unions. Its primary function would be to determine, supervise and evaluate the content and methods of training and testing.

The establishment of an Apprenticeship Board could also provide the opportunity for creating the necessary dialogue and co-ordination amongst interested parties. The Apprenticeship Board would be mainly concerned with the contractual conditions of apprentices and indentured learners, e.g. wage rates, disputes, length of apprenticeship, etc. without reference to content and methods of training and testing. In the absence of a training and testing council, however, it could assume the wider role of supervising training and testing. Indeed it may be argued that the supervision of training and apprenticeship conditions should both be subsumed under one body.

- d. There should be a renewed emphasis within the training institutions upon part-time in-service training for those with work experience. The appropriate means of achieving this would be short day-release courses and evening classes. This recommendation is congruous with recommendation 5.2 d. arising out of the survey of training institutions.
- e. Consideration should be given to the provision of greater training opportunities in the main population centres outside Gaborone. This would necessitate the creation of technical schools or colleges in these population centres.
- f. The schools can play a major role in the development of manual skills training. To this end some rudimentary skills training should be incorporated into the school curriculum.

- g. It was noticeable that there was a lack of institutional skills training in meat processing, tanning and leather manufacture. Given the importance of the cattle industry to Botswana, it will be necessary to expand training opportunities in the meat, tanning and leather industries through the creation of specific institutional facilities. Indeed, consideration could be given to the provision of training in meat technology, tanning and leather manufacture within the polytechnic framework.
- h. There should be more opportunities for unskilled and semi-skilled employees with work experience to enter craft training programmes. One or two employers have introduced schemes to train and up-grade their semi-skilled and unskilled work-force to craft and lower technician level. This practice should be more prevalent and followed by other major employers.
- i. Standardised tests were sometimes used by employers and training institutions as a method of selection for craft training programmes. It is felt that such tests, especially I.Q. and personality tests, may not always be an accurate measure of the potential of an applicant to become a competent craftsman. Consequently, the results elicited from standardised tests should be apportioned less weight than other types of evidence such as school reports, scholastic attainment and personal interviews.

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TERMS OF REFERENCE FOR BOTSWANA

Using the guidelines supplied by UNESCO, the following terms of reference for the study in Botswana have been drawn up. They include, firstly, a statement of the objectives of the study, and, secondly, a clarification of certain operational definitions and categories.

OBJECTIVES OF THE STUDY

The following are the objectives of the study, as elicited from the UNESCO document. They indicate the nature, purpose and scope of the enquiry.

General Objective: To analyse the problem of access (in the widest sense) to institutional skills training of the manual work-force.

Specific Objectives:

The general objective may be broken down into several specific objectives:

1. The study should measure and assess the extent to which manual labour has been denied or has not utilised the opportunity for institutional skills training. Both the denial of opportunity and failure to utilise such opportunity, may be referred to as the problem of access to skills training.*

* Both the UNESCO cover letter and the formal title given to the study suggest that 'access' be interpreted in the narrow sense to refer to simply entry requirements to institutional skills training. However, subsequent analysis of the guidelines provided by UNESCO strongly indicated that 'access' be interpreted in the widest sense to refer to all possible constraints on access not just entry requirements. Thus the title given is somewhat at variance with the content of the study.

2. The study should then identify the constraints which have prevented access to institutional skills training.

The possible constraints upon access, referred to either explicitly or implicitly in the guidelines, may be listed as follows:

- a. Highly selective entrance requirements to institutional skills training, measured by sponsorship, level of schooling and/or formal educational qualification.
- b. The lack of institutional training opportunities, i.e. the simple problem of availability.
- c. Practical problems of access, e.g. location and timing of training courses.
- d. Personal attributes of the potential trainee, such as age, sex, and physical and mental health.
- e. If the potential trainee is an employee, the unwillingness or inability of his employer to send him to or sponsor him for institutional skills training.
- f. If the potential trainee is self-employed (including family worker), his unwillingness or inability (financial or otherwise) to utilise the opportunity for institutional skills training.
- g. The perceived unsuitability or irrelevance of institutional training courses to the job needs of the potential trainee. (This point is closely related to points e and f.)
- h. The lack of awareness of what is available in terms of institutional skills training, due to a failure to publicise courses, etc.

All these lines of enquiry will be explored, recognising that they are closely inter-related.

3. The survey will also measure the extent of informal training (i.e. day to day on-the-job training by an employer or family head) and in light of this will assess the need for institutional skills training.
4. Lastly, the study will submit a set of proposals, from an analysis of the evidence collected, for policy consideration. Such proposals will designate how institutional training opportunities could be improved and made more compatible with the training needs of the manual work-force.

CATEGORIES AND DEFINITIONS

Within the UNESCO guidelines, a number of important terms were used, the meanings and connotations of which were neither consistent nor clear. It was therefore necessary to clarify such terms, and in so doing translate them into an operational form for the purpose of the study. A number of terms involved categories and the need for clarification entailed determining and differentiating categories. In addition, one or two terms which have been included in the statement of objectives above but which are not found in the UNESCO guidelines are also defined below.

1. Skill

The term 'skill' as used in the document may be defined according to the International Standard Classification of Occupations (I.L.O. Revised Edition, Geneva 1968, p.19): 'a skill implies specialised training' and 'the use of machines and handwork tools'. It should be noted that the above definition does not extend to manual occupations which involve the use of hand controlled implements but demand little dexterity (e.g. hod carrier, trench digger, stone breaker).

2. Occupational Categories

a. Occupational Categories to be Included in the Study

The study should refer to all types of skilled manual occupations. However, it is important to differentiate the two levels of skill in manual work: the craftsman and the operative.

- i. Craftsman - According to the International Standard Classification of Occupations (p.17), 'the craftsman or all-round man performs a wide-range of tasks and functions making a complete article'. A similar definition is that a craftsman is 'someone who has mastered all the tasks necessary to complete a job in his technological area'. A craftsman may be variously called 'tradesman', 'artisan' or 'skilled-worker'. The degree of skill necessary to a craft occupation is such that a protracted period of training is required.

- ii. Operative - According to the International Standard Classification of Occupations (p.17), 'the operative, on the other hand, usually performs a narrow range of tasks and functions. Operatives normally specialise in utilising a particular kind of machine or other mechanical equipment, which may be automative or semi-automative, and perform repetitive functions'. The operative may be referred to as a semi-skilled worker, and his work entails, compared to the craftsman, a lower degree of skill, a narrower range of functions and tools, and greater routine and repetition.

Although both categories come within the terms of reference of the enquiry, it will be important to maintain the distinction between them since they necessitate different types and degrees of training.

b. Occupational Categories to be Excluded from the Study

- i. Technician - The UNESCO document specifically excludes the category of technician from the terms of reference of the enquiry. According to the International Standard Classification of Occupations (p.9), technicians were those who 'generally work under the supervision of the more highly qualified professional workers and perform allied functions'. Technicians may be further distinguished from skilled workers by having in most cases a theoretical qualification, e.g. laboratory technician.
- ii. Agricultural Category - There is no indication in the UNESCO guidelines that those engaged in agricultural work should be included in the study. Consequently, this category has been excluded from the terms of reference. However, much agricultural work depends upon a degree of skill which could be improved or developed by institutional skills training. Hence it is suggested that training opportunities in agriculture merit specific investigation in a separate study.
- iii. Clerical and Secretarial Category - Those engaged in routine clerical and administrative work are also outside the bounds of the enquiry.

3. Training

a. Institutional Training

The study is concerned with institutional training, i.e. training within an institutional setting. The term 'institutional training' as used in the state-

ment of objectives, specifically excludes on-the-job, day to day informal training. For this reason it was preferred to the more ambiguous term 'vocational training', used in the UNESCO guidelines. Institutional training embraces both formal and non-formal programmes, but not, as noted above, informal training.

However, the distinction between the formal and non-formal aspects of training is not clear cut; but for the purpose of this study the formal aspect will simply refer to long courses, while non-formal institutional training will refer to short courses.

b. Types of Institutional Training

The UNESCO guidelines refers to two categories of institutional training: institutional training prior to regular employment immediately following initial or general education; institutional training during regular employment. In Botswana, the former is represented by the Brigades and the NCVI; the latter is represented by the NCVI, training schemes run by Government departments, parastatals and large companies.

c. Apprentice Training and Upgrading

i. Apprentice Training

The UNESCO guidelines refer to apprentice training in the context of institutional skills training, but without specifying what constituted an apprentice or an apprenticeship. It is therefore necessary to posit a definition.

An apprentice may be considered as a young person who receives under contract a protracted skills training, in conjunction with and as part of his employment, leading eventually to the recognised status of a craftsman, artisan, tradesman or skilled worker. According to the International Standard Classification of Occupations (p.22), 'the apprentice has the status of a learner of an occupation and, as a rule, has entered a formal agreement with his employer'.

In some cases, apprentice training may be received entirely informally, that is day to day on-the-job without contact with any training institution or scheme. In other cases, an apprentice may receive a major portion of his training away from the job on training courses and schemes. However, training institutions for those in employment, it should be noted, are only partly concerned with apprentice training.

ii. Upgrading

The term 'upgrading' is used in the UNESCO guidelines in conjunction with apprentice training, but again it is not clear what is meant. The most obvious meaning that can be attached to the term is a change in skill status as a consequence of training: from unskilled to semi-skilled or craft; from semi-skilled to craft. The term 'upgrading' could also possibly denote the acquisition of additional operative skills by an already skilled worker in relation to a new tool or machine.

d. Educational and Learning Needs

i. Education Needs

This term was used in UNESCO's cover letter and later in the document itself, but its meaning was not made clear. It may be construed from the immediate contexts in which it was used that it refers to entry requirements for institutional training, as determined by education. Education in this sense may be taken to be length of schooling and/or academic qualification.

ii. Learning Needs

This term was also used ambiguously in the guidelines. However, the context in which it was found, would suggest that it refers to the type and degree of manual skills training required in individual cases.

4. Access

The term 'access' was explained in the statement of objectives. But it can be re-emphasised that the problem of access encompasses both the denial of opportunity for institutional manual skills training, and/or the unwillingness to utilise such opportunity (psychological constraints).

5. Initial or General Education

This term as used in the UNESCO guidelines refers to education prior to institutional skills training, in which the emphasis is on academic learning without a specific vocational or skills orientation.

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APPENDIX II

LIST OF EMPLOYERS, INSTITUTIONS, ORGANISATIONS
AND INDIVIDUALS VISITED AND INTERVIEWED

A. EMPLOYERS

1. Ministries and Government Departments

Ministry of Agriculture:

Mr. Nelson, Director, Agricultural Field Services
Mr. F. Pullen, Principal Agricultural Officer

Ministry of Education:

Douglas Holmes, Chief Technical Education Officer
Don Day, Acting Chief Technical Education Officer
Arthur Stanley, Principal, National Centre for
Vocational Training
Mick Moss, Industrial Liaison Officer, National
Centre for Vocational Training
Ron Kukkler, Director, Brigade Development Centre
Wim Jansen, Director, Brigade Development Centre
Stuart Brown, Senior Technical Education Officer,
Brigade Development Centre
Ken Astrom, Curriculum Development Officer
(Technical), Brigade Development Centre

Ministry of Home Affairs - Labour Department:

Mr. D.L. Pilane, Chief Trade Testing Officer
Mr. G.D. Manga, Senior Labour Officer

Ministry of Works and Communications:

Department of Posts and Telecommunications
Department of Roads
Central Transport Organisation

2. Parastatal Organisations

Botswana Housing Corporation

Botswana Meat Commission

3. Private Sector

De Beers Botswana Mining Company (Pty) Limited

B.C.L. Limited (Formerly, Bamangwato Concessions Limited)

Minestone Botswana (Pty) Limited

Kalahari Ford

Botswana Furniture Manufacturers (Pty) Limited

Botswana Game Industries (Pty) Limited

Small Tannery at the BEDU estates in Mochudi

B. OTHER ORGANISATIONS

Botswana Employers Federation

Botswana Federation of Trade Unions

Rural Industries Innovation Centre

Richard Carrothers - Research Officer

C. BRIGADE CENTRES

Chobe Brigades Development Trust (Kasane)

Robert White, Business Manager

Gaborone Development Trust

Roger Blake, Secretary/Co-ordinator

Kanye Brigades Development Trust

Pat O'Brien, Business Manager

Kgatleng Development Board (Mochudi)

Moffat Sebanda, Secretary/Co-ordinator

Kweneng Rural Development Association (Molepolole)

David Inger, Secretary

Vuyise Onto, Teacher

Lobatse Youth Training Centre

Somerset Molapise, Counterpart Secretary/Co-ordinator
Barbara Cohen, Secretary/Co-ordinator

Madiba Educational Training Centre (Mahalapye)

George Kenosi, Co-ordinator

Matsha Brigades Development Trust (Kang)

Gilbert Raboupi, Co-ordinator

Mahalapye Development Trust

Robin Wild, Secretary

Ngamiland Youth Training Centre (Maun)

David Hellard, Co-ordinator

Palapye Development Trust

Chuck Millar, Secretary/Co-ordinator

Pelegano Village Industries

Frank Taylor, Managing Director

Serowe Brigades Development Trust

Patrick van Rensburg, Secretary

Elijah Makgoeng, Manager

Anne Mager, Teacher

Tshipi Morweng, Trainee

Shashe Brigades Development Trust

Christopher Tshipa, Co-ordinator

Tswelelopele Brigades Development Trust

Robert Mabile, Co-ordinator

Tutume McConnel Community Trust

Jos Boekel, Co-ordinator

D. PRISONS

Lucas Ramokhuva, Director of Prisons

Tommy Mading, Prisons Industrial Manager

Abel Rasefako, Superintendent of Prisons

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APPENDIX III

UNESCO SURVEY SEMINAR
HELD ON 24TH APRIL 1979

LIST OF PARTICIPANTS

<u>NAME</u>	<u>DESIGNATION</u>	<u>AGENCY</u>
1. N. Ahmad	Professor/Head, Department of Economics & Dean, Faculty of Economic and Social Studies	University College of Botswana
2. R.W. Blake	Secretary/Co-ordinator	Gaborone Development Trust
3. J.T. Botlhole	Assistant Director	Posts and Telecommunications
4. S.C. Brown	Senior Technical Education Officer	Brigade Development Centre
5. M. Chalmers	Planning Officer	Ministry of Finance and Development Planning
6. D.R. Day	Training Adviser	Directorate of Personnel
7. H.J. Gaboutlloe	Training Officer	Botswana Meat Commission
8. D.F. Holmes	Chief Technical Education Officer	Ministry of Education
9. R. Johansson	Operations Adviser	Botswana Enterprises Development Unit
10. D. Jones	Lecturer in Public Administration	University College of Botswana
11. R.J. MacKenzie	Lecturer, Institute of Adult Education	University College of Botswana

12. T. Mading	Prisons Industrial Manager	Prisons
13. G.D. Manga	Senior Labour Officer	Labour Department
14. G. Marambo	Administrative Assis- tant	Botswana Federa- tion of Trade Unions
15. T.C. Moremi	Administrative Officer	Ministry of Finance and Development Planning
16. N.P. Moyo	Senior Lecturer in Economics	University College of Botswana
17. F. Mzizi	Member	Botswana Federation of Trade Unions
18. E.O. Uchieng	Lecturer in Economics	University College of Botswana
19. B.S. Pilane	Assistant General Manager	Central Transport Organisation
20. D.L. Pilane	Chief Trade Testing Officer	Labour Department
21. J.N. Price	Director	Botswana Employers' Federation
22. I.B.A. Senosi	Senior Agricultural Officer	Ministry of Agriculture
23. F. Youngman	Lecturer, Institute of Adult Education	University College of Botswana

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APPENDIX IV

TRADE TESTING

General Background

In 1963, the Department of Labour established a Consultative Committee including representatives of workers, employers and the Directorate of Personnel. The Committee introduced a set of trade tests which were used until 1975.¹ Since then a set of more formalized tests devised by the International Labour Organisation (I.L.O.) Team in Botswana has been in use. These tests are designed to cover a seven-year period of on-the-job training leading to the level of an artisan. Formal training, with classroom and workshop facilities, may however take four and a half years to reach this level. The first test is Trade Test C for which three years of employment are required. (In the case of Brigades, the three year combination of production and training is acceptable, and for the NCVI graduates, one-year City and Guilds 820 plus 6 months work experience is recognized). This is followed by Trade Tests B and A, each of which require two years work experience.

Testing Procedure

The tests are normally conducted twice a year at different centres - at the Botswana Training Centre and the NCVI in Gaborone, and at the Brigade Centres and Council Workshops in the rest of the country.

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1. Since 1974, the Department of Labour has a Trade Testing Unit responsible for testing. Until then, trade testing was the responsibility of the Ministry of Education, with a brief transitional spell under the Directorate of Personnel.

(See, table 1). Candidates have to bring their own tools and proof of work experience. No fee is charged for the tests. The tests include both theory and practicals, and are conducted in English. An exception to this is Trade Test C: a candidate who has received no formal education, may take the test in Setswana to cover only the practical aspect. This exception is being phased out as formal education expands.

Trade Tests Results (1977)

Table 2 provides data for tests conducted in 1977 in 9 trades.² At Grade C level, 657 candidates were tested of whom 367 (55%) passed; for Grade B, 296 were tested and 194 (66%) passed; for Grade A, 55 were tested and 17 (31%) passed. In all, 1008 candidates were tested and 575 (57%) passed. About two-thirds of the candidates were tested in only two trades - bricklaying and carpentry.

In 1977, 619 candidates (61%) were tested in Gaborone. An unknown number had to travel to Gaborone specially for the test. Of the 1008 tests administered in 1977, 567 (56%) were applied to candidates from the government and parastatal sectors, which provided the majority of directly sponsored applicants.

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2. It should be noted that a major problem is collection of accurate data due to inadequate coordination of information from various sources.

The Brigades Performance in 1977

As shown in table 1, 9 of the 12 testing centres outside Gaborone are Brigade Centres, where only Brigade students are tested. Brigades do occasionally provide examiners in trades like welding. They could probably play a greater role in this respect, though clearly at some opportunity cost to themselves in terms of lost instruction and production time.

For Trade Test C, in 1977 of the total 657 candidates 199 (30%) were from the Brigades, of whom 72 (36%) passed. This performance by the Brigades was not very efficient, compared to the national pass rate of 55%.

For Trade Test B, only 25 (9%) candidates were from the Brigades. Of these, 15 (60%) passed. This performance was almost at par with the national pass rate of 66%.

For Trade Test A, 4 (7%) of the 55 candidates came from Brigades, and 2 of these passed. The pass rate at 50% was significantly higher than the national pass rate of 31%.

Problems with Trade Testing

Everyone involved with skills training who was interviewed expressed concern about the quality of the trade testing system. There are two main problems. The first is the lack of qualified staff to run the system adequately. In some years trades could not be tested because qualified examiners were not available. The second problem arises from the fact that significantly different views are held on the amount of training

and work experience required at different levels, on the nature and relevance of skills tested, on the mode of testing, on the balance between practicals and theory, on the language used, and on the standards to be maintained. It is, however, generally agreed that a satisfactory national system for the certification of skills has not yet been devised.

Some Issues for Consideration

Clearly, there is an inadequate provision of qualified examiners. Whilst this is largely related to the low level of available skilled manpower, it is possible that available resources are being underutilised. Perhaps organisations like the Brigades might be allowed to make a greater contribution in providing appropriately qualified instructional and technical staff to serve as examiners. Such arrangements would have to be officially recognised by the Trade Testing Unit.

There is considerable controversy about whether English or Setswana should be the language of instruction and testing. On balance, it was felt by respondents that use of English is more realistic.

The trade testing system itself, mainly due to overstretched resources, is far from satisfactory. Standards, language, the balance between theory and practice, and the nature and relevance of skills tested, are all called into question. An urgent review and reform of the situation would be welcomed by those responsible for testing, training and employment alike.

In view of the current emphasis on City and Guilds examinations, many respondents wondered how much real recognition Botswana accorded to her own assessment procedures. The issue has not yet been clearly resolved.

Cases are known of candidates who have been waiting for more than 3 years, and have still not been tested. This again indicates the problem of shortage of qualified examiners. It has been suggested that instructors and technical staff from a variety of agencies should be identified who are suitable to assist. With appropriate training arranged by the Trade Testing Unit they might form the nucleus of a body of part-time examiners whose efforts are co-ordinated by the Trade Testing Unit.

Summary of Recommendations

1. An urgent review and reform of the Trade Testing system is required, and those responsible should receive adequate resources and support to administer the system effectively.
2. Better testing facilities, including, if necessary, the provision of appropriate tools, should be made available to candidates.
3. Every effort should be made to test candidates as quickly as possible in order to reduce the waiting list.
4. The possibility of using part-time staff as examiners should be explored. This could be one way of overcoming the shortage of trained staff at the testing centres.
5. The status of the Trade Test vis-a-vis the City and Guilds examinations should be clearly established.

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TABLE 1

FIGURES FOR TRADE TESTING CENTRES
OUTSIDE GABORONE (1977)

CENTRE	BRICKLAYING Number Tested	CARPENTRY Number Tested	TOTAL
Maun	27	7	34
Francistown	46	23	69
Selebi-Phikwe	39	10	49
Mahalapye*	41	14	55
Lobatse*	18	15	33
Serowe*	50	11	61
lonota*	14	7	21
lutume*	9	8	17
Palapye*	7	5	12
Kanye*	15	0	15
Mochudi*	11	0	11
Molepolole*	12	0	12
TOTAL	289	100	389

* Brigade Centres.

TABLE 2
TRADE TEST RESULTS (1977)

T R A D E	GRADE C			GRADE B			GRADE A			ALL GRADES		
	Tested	Passed	Failed	Tested	Passed	Failed	Tested	Passed	Failed	Tested	Passed	Failed
Auto Electrical	0	0	0	1	1	0	0	0	0	1	1	0
Auto Mechanical	65	58	7	27	23	4	3	1	2	95	82	13
Bricklaying	272	50	222	114	37	77	40	13	27	426	100	326
Carpentry	137	97	40	46	37	9	9	0	9	192	134	58
Electrical Installation	21	10	11	17	15	2	1	1	0	39	26	13
Fitting / Turning	3	3	0	2	2	0	1	1	0	6	6	0
Painting	91	91	0	42	42	0	0	0	0	133	133	0
Plumbing	26	24	2	11	10	1	0	0	0	37	34	3
Welding	42	31	11	36	27	9	1	1	0	79	59	20
T O T A L	657	364	293	296	194	102	55	17	38	1008	575	433

THE SELF-EMPLOYED AND
MANUAL SKILLS TRAINING

The survey sought to find out, among other things, the following information about the self-employed: present levels of skills, how skills were acquired, the adequacy and inadequacy of present levels of skills, availability of skills up-grading facilities, and constraints on access to formal vocational training institutions to up-grade skills.

A total of 40 self-employed people were interviewed:

- a. from the following trades: motor mechanics (4), panel beaters (1), welders (3), watch/radio repairers (1), electricians (1), photographers (1), bicycle repairers (1), tailors/knitters (8), builders/blockmakers/bricklayers (5), painters (2), plumbers (1), carpenters (6), cobblers (6); and,
- b. from the following locations: Gaborone (19), Mochudi (3), Ramotswa (9), Manyang (4), Kanye (5).

Generally the self-employed had low levels of schooling: 32.5% had no schooling at all and only 7.5% had gone beyond Standard 7. They were mostly in their middle ages: 57.5% were over 36 years old. This is because they had to acquire not only the skills but also savings to start business. Skills were acquired mostly on the job and individually (85%). Very few (6 out of 40, i.e. 15%) have had formal vocational training. Most of the interviewees (87.5%) had not had their skills certificated. Only 5 out of 40 had successfully take Trade Tests, of whom 4 at B level and

1 at C level. Many wished to upgrade their skills (57.5%), but the vast majority (92.5%) had not tried to gain access to formal training institutions because of various reasons. In fact, none of the people interviewed had gained access to formal vocational training institutions to upgrade their skills.

Most interviewees felt that there was more need for government financial and material support rather than for further training. They saw, for example, the lack of finance to expand and upgrade their business, and the crippling competition from established South African firms as the real bottleneck and not lack of skills. Many found themselves in a type of vicious circle: further training may mean learning to use new and complicated tools that cost a lot of money which they did not have and, therefore, the training would not be utilised and so it was a waste of time to go for further training. Some felt that they could benefit a lot by attending specialised courses on particular machines or on the use of particular tools (module courses). The mechanics, builders and welders were particularly of this view. All the carpenters interviewed felt they did not need any further training. Many people expressed either an unawareness of upgrading training facilities or said that they did not exist altogether in Botswana.

There are, however, efforts by international voluntary agencies, development trusts and some Brigades, which are playing a noticeable role in the training of rural dwellers to sustain rural cottage industries. The most outstanding is the Rural Industries Innovation Centre in Kanye which designs and produces industrial and agricultural implements and teaches buyers to use the implements. These organisations can, however, only impart rudimentary knowledge, and the need for further training is still left unfulfilled.

Summary of Recommendations

Most of the self-employed interviewed were retired wage employees mainly from South Africa. Their age and family commitments were such as to tie them down to their home areas. Consequently, they could not leave home and business for prolonged periods to attend formal full-time courses far away. They, therefore, made the following suggestions which they felt could help make training more accessible and helpful to them:

1. The establishment of part-time, evening, day release and weekend courses on village basis.
2. Need for correspondence courses.
3. Need for mobile training units.
4. Training coupled with financial and material assistance to break the vicious circle.
5. Protection from established South African enterprises.
6. Module courses for specific skills.

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APPENDIX VI

ANNOTATED BIBLIOGRAPHY

There are 52 annotated items, all of which have a bearing upon the survey. They are arranged in chronological sequence, and span the years 1967 - 1979. Abbreviations used are:

n.p.	=	no place
n.d.	=	no date
pp.	=	number of pages
Append.	=	accompanying appendix

1. van Rensburg, Patrick
Education and Development in an Emerging Country.
Scandinavian Institute of African Studies,
Uppsala, 1967. 48 pp.

Expanded version of lectures on the activities
and aims of Swaneng Hill School at Serowe.
2. Republic of Botswana
Request to the Special Fund of the U.N. Development
Programme for Assistance with Establishment of
National Vocational Training Centre Including
Instructors. Government of Botswana, Gaborone,
1968. 21 pp. + Append.

A proposal for the establishment of vocational
centres in order to localise skilled work currently
performed by expatriates. Elaborates on the
critical shortage of trained manpower and its
threats to further industrial and economic develop-
ment.

3. Doran, K.C.

Botswana Youth Training. Gaborone, 1969.

11 pp. + 2 Append.

An investigation of the increase of primary school leavers and those from training institutions who cannot find employment. Makes recommendations to Government for planning more manpower resources.

4. Pickard, O.G.; Platt, Bennyl; Richards, A.G.G. and Thompson, C.A.

Further Education in Botswana. Report of the Mission on Further Education in Botswana. Gaborone, Government Printer, 1969. 18 pp. + Append.

Recommendations for the establishment of technical, commercial and vocational training institutes for Botswana, Lesotho and Swaziland.

5. Sinclair, Donald M.

Report of the Public Service Manpower Survey, 1970.
Publication not available for analysis.

6. Martin, Anthony

Report on the Brigades in Botswana. n.p., 1971. 96 pp.

A description of the Brigade Movement in Botswana and an analysis of problems associated with its development. To be used as a guideline for further Brigade development.

7. Sheffield, J.R. and Diejomaoh, V.P.

Non-Formal Education in African Development.

African-American Institute, New York, 1971.

"Brigade Training in Botswana" (pp. 55 - 66) is a case study of the Brigades, focusing on their cost-covering rationale.

8. Tuttas, G.H.

Agricultural Education and Vocational Training in Botswana. United Nations Development Programme Survey and Training for the Development of Water Resources and Agricultural Production, Botswana, Gaborone, 1971. Technical Note No. 14. 21 pp.

Analyses developmental needs within Botswana, especially with regard to rural development. Recommendations are made which would help implement growth and change within the rural/agricultural community.

9. van Rensburg, Patrick

"A New Approach to Rural Development" Botswana Notes and Records, Vol. 3, 1971. pp. 201 - 215.

Advocates a clear policy of rural and urban development co-ordination in order to achieve mass employment, higher living standards, better education and improved social services.

10. Swedish International Development Authority (SIDA)

Education and Training in Botswana, 1972. 95 pp.
2 parts.

The aim of the study is to investigate educational facilities and planning in order to make an inventory of the needs in the field of education for meeting the development goals within this sector.

11. The Brigade Survey Mission (SIDA)

Report on the Brigades in Botswana, 1973. 129 pp.

A comprehensive analysis of Brigades from 1965 to 1972 commissioned by the Ministry of Education. Findings point out major weak points in Brigade organisation and planning and recommends new organisational structure as well as government cooperation and co-ordination.

12. Colclough, Christopher
Manpower and Employment in Botswana.
 Ministry of Finance and Development Planning,
 Gaborone, 1973. 206 pp. + Append.

 Report undertaken to provide statistical data on
 the employment and manpower situation in 1972 and
 to provide information useful for the planning of
 education and training in Botswana.

13. Gibberd, V.
Farmers Brigades. National Seminar on the Training
 of Botswana Farmers. Gaborone, Botswana Agricultural
 College, 1973. 5 pp.

 An over-view of historical and current developments
 of the Farmers' Brigades in Botswana.

14. Kuenstler, Peter
Alternatives in Education: The Non-Formal Alternative.
 n.p., 1973. 6 pp.

 Discusses the advantages and details of implementing
 broader and stronger training programmes in Botswana.
 Emphasis is on training activities for youths
 between the ages of 12 - 16.

15. National Seminar on the Training of Botswana Farmers
 Held at the Botswana Agricultural College, Gaborone,
 Botswana. September 1973 - A Record of Proceedings.
 Gaborone, 95 pp.

 The full proceedings of the above mentioned seminar
 which was organised to determine ways of obtaining
 closer co-operation and co-ordination for integrated
 Rural Development and ways of making maximum use of
 training facilities.

16. Loken, Robert D.
Education in Transition - The Report of the Polytechnic
 Mission. Overseas Liaison Committee and the American
 Council on Education, n.p., 1973. 230 pp.

Report deals with the full range of middle level manpower needs in Botswana, Lesotho and Swaziland. Evaluates existing facilities available for the development of middle level training.

17. Report of the Presidential Commission on Localisation and Training and the Government Statement on the Report of the Commission. Government Paper No. 3. Gaborone, Government Printer, 1973. 190 pp. + Append. and annex.

Both documents together represent a comprehensive and highly detailed action programme for the achievement of a national public service.

18. van Rensburg, Patrick
"Boiteko" Botswana Notes and Records, Vol. 5, 1973. pp. 12 - 16.

Boiteko, a village cooperative aimed at raising the standards of living and promoting employment in rural areas, is briefly discussed in terms of being used as a model for similar projects in rural communities.

19. Adler, Taffy
Education and Development - A Study of the Brigade Movement in Botswana. Johannesburg, University of Witwatersrand, 1974. 98 pp. + Append.

An examination of the role of Brigades as they relate to rural development. Reviews changes in philosophy and goals over the nine year period of their existence.

20. Henderson, Willie
"Brigades, Government, Enthusiasm and Development: A Critical Review of the Martin Report" Botswana Notes and Records, Vol. 6, 1974. pp. 122 - 128.

An evaluation of Brigades and their effectiveness as a strategy for creating rural employment, for primary school leavers in Botswana. Government point of view and experience of Lesotho are included.

21. Slater, A.T.

Arrangements for the Operation of the (Revised)
Trade Testing System in Botswana. I.L.O./Department
of Labour (Botswana), Gaborone, 1974, n.p.

Report on the revised trade testing system in Botswana. Changes in trade test requirements, occupational qualifications and certification from old Botswana Government Trade Test to the new Botswana National Trade Test are the main concern of the report. The report covers trade tests in auto mechanics, borehole mechanics, bricklaying, carpentry, et cetera.

22. Ulin, Richard O.

"The Brigades of Botswana Eight Years Later"
Botswana Notes and Records, Vol. 6, 1974.
pp. 189 - 195.

A critical review and evaluation of the history and progress of Botswana's Brigades in order to determine the implications they have for other projects similar in nature.

23. Wood, A.W.

Information, Education and Development in Africa.
The Hague, International Institute for Social
Studies, 1974. 308 pp.

Part two "Youth Training in Commonwealth Africa" gives details of educational development in twelve African countries. Section IV considers the Brigade "formula" in Botswana in relation to three main areas of training: low-level industrial training; training in local crafts; training and settlement of young men as farmers; and low-level technical training especially for the construction industry.

24. van Rensburg, Patrick

Report from Swaneng Hill - Education and Employment
in an African Country, Uppsala, Dag Hammarskjöld
Foundation, 1974. 235 pp.

A comprehensive description of the development of the Brigade Movement in Botswana from the point of view of its initiator and 'spiritus rector'. Appendix 5 (pp. 220 - 235) "Extracts from a report on Education in Botswana Brigades" by Virginia Makins is an examination of the content of academic teaching given at Brigades along with recommendations for improving over-all aims of the "movement".

25. Gibberd, Vernon

"The Re-Education of Patrick van Rensburg.

A Farmer's View of Report from Swaneng Hill, by Patrick van Rensburg." In: Botswana Notes and Records, Vol. 7, 1975, pp. 205 - 206.

The author of this book review gives some additional comments on the development of the Serowe Brigades, pin-pointing the reforming ardour of van Rensburg despite all the scepticism of some of his colleagues and resistance by established educational institutions and Government.

26. Grose, Dennis

Background Paper on the Educational System of Botswana for the National Education Commission. 1975.

Publication not available for analysis.

27. Sinclair, Michael

Bibliography About Brigades in Botswana and Village Polytechnics in Kenya, 1975. 12 pp.

This bibliography is an outgrowth of the writer's preparations of a discussion paper entitled "Brigades in Botswana and Village Polytechnics in Kenya", presented to the session on "Alternative models for education in Africa" at the 1975 conference of the Canadian Association of African Studies.

28. van Rensburg, Patrick
 "The Need of a Revolution in Education", Africa,
 London, No. 45, May 1975. pp. 34 - 36.

Advocates a change in direction in economic and education development planning for developing countries. Uses Brigades development in Botswana as an example for further educational development.

29. Botswana Adult Education Newsletter
 University College of Botswana/Institute of Adult Education and Botswana Extension College, Gaborone, 1976 - 1979. Vol. 1 - 2.

A quarterly journal which disseminates useful and practical information on adult education for practitioners in the field, including articles on vocational training. Vol. 2, Nos. 3 and 4, is a special issue on adult education and production. The journal is now published by the Botswana National Adult Education Association.

30. Botswana's Brigades. Gaborone, Government Printer, 1976. 26 pp.

A brief review of Brigade principles, historical background, common features, financing, training techniques and role played by Government. Revised version due in mid 1979.

31. Chambliss, K.M.
Botswana's National Scheme of Manpower Development and Training. Gaborone, UNDP, 1976. 104 pp.

A tentative proposal for developing a national Vocational Training Scheme and Instructor Training Programme. Appendix 2 is titled "The Basis for a Scheme of Service for Vocational Training Personnel".

32. Employment Survey (August 1976). Central Statistics Office and Ministry of Finance and Development Planning. Gaborone, November 1977. 16 pp.

Report on the results of the employment survey conducted in August 1976. Statistics compiled show the number of both skilled and unskilled citizens and non-citizens employed mainly in the formal sector during that period and reveals that there are considerable differences in wages of citizens and non-citizens.

33. Eshleman, Rogers

"A Review of the Mochudi Farmers' Brigade - Contribution Towards Improving Arable Crop Production in Botswana". In: Technology for Rural Development, Discussion Paper No. 3. National Institute for Research in Development and African Studies, 1976. pp. 591/1 - 16.

Briefly explains the Mochudi Farmers' Brigade and its development from a mere traditional training project to a more goal-oriented project with emphasis on farming inputs and practices.

34. Kukler, Ron

Follow-up of Graduates from Brigade Centres. Gaborone, Botswana. Ministry of Education, 1976. 25 pp.

A report of a survey to determine the involvement of former Brigade trainees and their impact on the development processes of the country.

35. Brigades Establishment Register

Brigade Development Centre - BRIDEC 1977 -1979.

An alphabetical arrangement of staffing within each Brigade. Information provided includes number of employees and trainees in the various positions, whether employee is local or expatriate, and whether position is filled or vacant.

36. Education for Kagisano. Gaborone, National Commission on Education, 1977. 296 pp.

Critical assessment of Botswana's educational system, its goals and major problems, and recommendations for improvement in education. Chapters 5 and 7 and Annex 3 deal specifically with aspects of non-formal and vocational education.

37. van Rensburg, Patrick

"The Serowe Brigades: Seeds of an Alternative Education" In: Niehoff, R.O., Non-Formal Education and the Rural Poor. Michigan State University, 1977.

Describes the philosophy of the Serowe Brigades. Reviews progress and rural development changes in Botswana.

38. Barry, Des

Centre Evaluation Reports - A Critique. CUSO/IVS, Mochudi, 1978. 5 pp.

Seminar proceedings to evaluate reports from different Rural Development Associations. Major topics of the reports were Goals and Objectives, Training and Education, Commercial activities, Employment opportunities, Localization and Community and Consultation. Brigade training has been criticized for being incompatible with the rural development process.

39. Botswana Brigades Newsletter

Brigade Development Centre - BRIDEC Gaborone, 1978. No. 1 - 13.

A monthly newsletter which publishes current news concerning activities, projects and events relating to Brigades in Botswana.

40. Education Statistics. Part I: 1976 Schools, Pupils and Teachers. Part II: Examinations, Expenditure and Miscellaneous. Education Statistics Unit, Ministry of Education. Gaborone, 1978. 86 pp.

The ninth annual publication in the series, Education Statistics. Includes data on primary, secondary, vocational, teacher training, and university education.

41. Information on Development Programmes, No. 2.

Department of Town and Regional Planning (Botswana).
Gaborone, February 1978, 72 pp.

A detailed description of numerous projects for each ministry/department. The projects have been listed as 'on-going projects' or 'new projects planned'. Finally there is a heading called 'any other news'. The primary purpose of the document is to provide information to the districts and secondly to assist the inter-ministerial communications on planning and development related to programmes and projects.

42. Lipton, Michael

Employment and Labour Use in Botswana - final

Report:(2 Vol.)Botswana. Ministry of Finance and Development Planning and Commission of the European Communities European Development Fund, 1978. Vol. 1, 245 pp., Vol II, 250 pp.

Study of employment opportunities and of detailed strategies for employment policies. Recommendations to the Government, as to how to reach full employment in Botswana by 1988.

43. Report on the Sixth National District Development

Conference, December 1978. Ministry of Local Government and Lands. Gaborone, 1979. xviii + 206 pp.

The report contains a wealth of up-to-date information on planning and development processes affecting the Districts. This report is the means by which the Districts should ensure that Ministries, Departments and individuals actually do what they have agreed to.

44. Poole, B.

Rural Skills Survey in Central District. n.p., 1978.3 pp.

A survey of the rural economy in the Central District of Botswana. Results indicated that the following problems hampered rural development in the district: lack of market area, efficient means of sales promotion, lack of formal training, and poor tools and equipment.

45. van Rensburg, Patrick
The Serowe Brigades - Alternative Education in Botswana. The Hague, MacMillan, 1978. 74 pp.

An evaluation and analysis of the impact the Brigade movement has had as an all-round tool of social and economic development in Botswana during its eleven year existence.
46. Watson, David A.
Report on a Study of Local Government and District Administration Training. Gaborone, Government Printer, 1978.

Examines the training and use of manpower in Local Government to improve the performance of its duties.
47. Chilisa, Ernest
"Brigades Mushroom", New Africa, No. 139, March 1979. pp. 38 - 39.

Describes how the Brigade movement deals with unemployment and acute shortage of skilled labour in Botswana.
48. Maehrle-Eichner, I.
Vocational Training and Employment. n.p., 1979. 6 pp.

Advocates that the implementation of National Policy on Education should be geared to create work for increasing numbers of school leavers, especially in fields of production. Encourages training in the private sector.
49. Education Statistics. Part I: 1977 Schools, Pupils and Teachers. Part II: 1976 Examinations, Expenditure and Miscellaneous. Education Statistics Unit, Ministry of Education. Gaborone, January 1979, viii + 83 pp.

Compiled statistics on different aspects concerning education in Botswana. For example, educational planning, number of pupils, number of schools, number of teachers, examinations, expenditure on education, etc.

50. Botswana, Ministry of Education.
Division of Technical and Vocational Training.
 Gaborone, n.d. 9 pp.

A brief report of the activities and progress of the Technical and Vocational Training Division.

51. Jones, Philip F.
The Sebina/Tutume Community Project and Secondary School. n.p., n.d., 12 pp.

This "new" concept in community college education is described as a model for rural education and community development. The College is to deal with problems such as adult education, primary school leavers, rural unemployment, and agricultural productivity.

52. Serowe Brigades, 1965 - 76.
 Serowe Brigades Development Trust. Brigade Printers,
 n.p., n.d., 60 pp.

A report from the official board of the Serowe Brigades evaluating the progress and development of the project.

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